Austria Sch22	Indonesia Rp3100	Portugal Esc100
Bahrain Din0.650	Israel NS3.50	S.Arabia Rls6.00
Belgium BFr48	Italy L1600	Singapore ...... S$4.10
Canada ...... C$1.00	Japan Y600	Spain Pta125
Cyprus ...... C£0.75	Jordan Fils500	Sri Lanka Rup30
Denmark DKr9.00	Kuwait Fils500	Sweden SKr8.00
Egypt ...... E£2.25	Lebanon SL125.00	Switzerland SFr2.20
Finland Fmk7.00	Luxembourg LFr48	Taiwan ...... NT$65
France FFr6.50	Malaysia Rm4.25	Thailand Bht50
Germany DM2.20	Mexico Pes300	Tunisia Din0.800
Greece Dr100	Morocco Dh6.00	Turkey L500
Hong Kong ...... HK$12	Netherlands Fl3.00	UAE Dh6.50
India Rup15	Norway Nkr8.00	USA $1.00

FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

No. 30,366 · Monday October 19 1987 · D 8523 A

Iran beats blockade with extra tankers, Page 6

World News

Greens fail to shake Swiss coalition

Green environmentalist groups made gains in the Swiss federal elections but failed to shake the control exercised over Swiss politics since 1959 by the governing four-party coalition.

After results from 109 of the 200 seats in the federal National Council had been declared, the Ecological Party, which held three seats in the outgoing legislative, had gained two places. An allied Green-Red group had also captured two new seats. Page 26

Arms seized

Italian customs police seized 14 tons of arms, mostly West German-made machine guns, after they were found aboard the 10,000-ton Qatar-flagged Fathul Khai in Savona, a northern Italian port, destined for the Gulf area.

Post strike ends

Members of the 23,000-strong Canadian Union of Postal Workers drifted back to their jobs in compliance with a tough back-to-work bill pushed through Parliament by the Government. Page 3

Syria visit

Iranian Prime Minister Mir-Hossein Mousavi began a three-day visit to his country's main Arab ally, Syria, ahead of an Arab summit expected to promote full backing for Iran's Gulf war enemy, Iraq.

Security links

France and Spain announced wide-ranging plans to forge new Mediterranean security links including a top-level committee to monitor security on both sides of the sea.

North Sea battle

A fleet of Danish fishing boats fought a water cannon battle with a chemical incineration ship yesterday in the North Sea off the Dutch coast at Den Helder, to demonstrate against burning chemical waste at sea.

Hammer plan

Sweden expressed willingness to join US oil magnate Armand Hammer's plans for an Afghan settlement but declined to say whether it was prepared to lead an international peacekeeping force there.

Spain backs down

Spain scrapped plans for an experimental nuclear waste project near the Portuguese border after strong protests by Portuguese officials and local groups. Page 5

Palestinian boycott

Palestinian leaders boycotted a meeting with US Secretary of State George Shultz in protest against the US decision to close a PLO information office in Washington.

Strike collapses

The strike in South Africa by about 4,000 black employees at Anglo American's Highveld Steel & Vanadium, collapsed as management began mass dismissals.

Dhaka arrests

Bangladesh Police arrested at least 11 members of the opposition Bangladesh Nationalist Party in what party sources claimed was a government attempt to thwart a two-day general strike.

Manila scare

The Philippine government claimed yesterday it foiled a new coup attempt after rebel soldiers stole an armoured car from an army camp. The soldiers abandoned it about as mile from the President's residence and an opposition source said the rebels planned a "military operation" which failed after someone tipped off pro-government forces.

Sikhs held

Indian police yesterday arrested three top Sikh priests, triggering fears of a backlash in the holy city of Amritsar.

Hermes go-ahead

France appeared determined to press ahead in calling for West European support for its controversial Hermes manned spacecraft project. Page 5

Business Summary

TWA okays chairman's new offer for stock

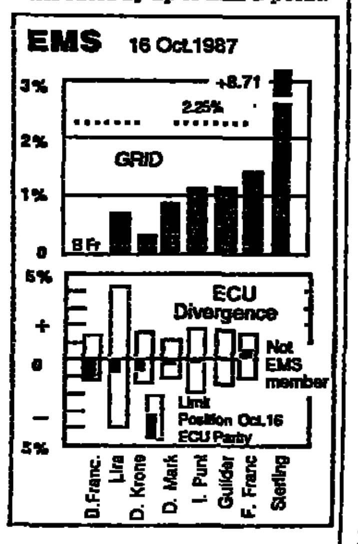
TRANS WORLD AIRLINES has agreed to an improved offer from Mr Carl Icahn, its chairman, for the 27 per cent of the company's stock he does not already own.

Mr Icahn raised his offer to $20 in cash and securities with a face value of $25 for each TWA share. The offer values the whole of TWA at $1.35bn.

EUROPEAN Monetary System: Further dollar weakness boosted the West German D-Mark within the EMS last week and prompted intervention by central banks to help stem the rise.

The Bank of France sold the D-Mark, which reached its best level against the franc for over a month.

The Belgian central bank also sold a modest amount of D-Marks, not only because of dollar weakness but also to defend the Belgian franc which had fallen on news that Premier Martens had tendered his resignation. On Friday the bank also increased short-term Treasury bills rates by up to half-a-point.



The chart shows the two constraints on European Monetary System exchange rates. The upper grid, based on the weakest currency in the system, defines the cross-rates from which no currency (except the lira) may move more than 2¼ per cent. The lower chart gives each currency's divergence from the "central rate" against the European Currency Unit (Ecu), itself derived from a basket of European currencies.

CELLTECH, Britain's largest specialist bio-technology company, is expected to announce a substantial international share placing this month. Page 8

SAAB-SCANIA, Swedish automobile and aerospace group, reported a 7 per cent drop in profits for the period May to August at SKr859m ($135.2m) but expects a better performance from its truck division. Page 30

BANK OF ENGLAND and the four UK clearing banks have drawn up measures to restore order to the markets after unusual weather conditions caused the suspension of interbank clearing systems. Page 8

IRAN maintained oil production at at least 2.2m barrels a day for the first 10 days of October despite a major raid on its Larak Island terminal. Page 6

TEXAS INSTRUMENTS, US electronics and semiconductor manufacturer, reported a dramatic earnings increase for the third quarter and announced plans to strengthen its position in the factory automation market. Page 30

TAIWAN plans tariff cuts averaging 50 per cent on more than 3,500 imports within its current trade policy reforms. Page 6

SWEDISH MATCH, Swedish conglomerate and world's leading match manufacturer, reported a 46 per cent increase in profits for the first eight months at SKr287m ($45.2m), helped by higher profits from its flooring, door and packaging subsidiaries. Page 30

TURKEY'S exports in September were worth $1.1bn, more than double last year's figure and a record for a month. Page 6

SCANDINAVIAN Airline System has wonpermission to start flying non-stop from Copenhagen to Beijing over the Soviet Union,thereby cutting its flying time by half. Page 6

Wall Street's hangover starts as bull run party ends

BY RODERICK ORAM IN NEW YORK

THE LONGER the party, the bigger the mess. So it was not a pretty sight last week when Wall Street finally turned on the lights and began cleaning up after five years of rip-roaring bull markets.

As if the plunge in stock and bond prices was not bad enough, realisation that the party was permanently over for some people - those who are losing their jobs - aggravated the anguish.

One of the longest bull markets this century has had painful side effects, such as bloated staffs, management headaches, inflated costs and tighter profit margins. News that Salomon Brothers was firing 800 people was taken as a harbinger of Street-wide retrenchment.

The music stopped suddenly last week, when a selling binge, prompted by fears of higher interest rates, drove the Dow Jones Industrial Average down 236 points - exactly half the ground it has lost since it peaked eight weeks ago at 2,722.42.

Whether the markets' party resumes soon hangs delicately on investors' anxious mood over the next few days. Depending on which way they jump, the sell-off could halt soon and enter the record books as a severe correction. Alternatively, it could continue and go down in history as the start of a ferocious bear market.

Enough investors may be persuaded to go bargain hunting to stop the rot. Over the weekend, many analysts were hanging doggedly on to their hopes that stock market fundamentals justify a return to higher prices. They argued that the 17 per cent drop in the Dow had cleaned out some of the excesses in stock prices.

IBM, for example, the largest capitalisation stock in the US, has fallen more than 20 per cent from the peak. Friday's close of $135 represented a p/e of 13 or 14 on estimated 1988 earnings. Other stocks' retreating from record p/es of well over 20 have been less spectacular but potentially rewarding for domestic and foreign investors. One of the best picks the Japanese can expect at home, for example, is Japan Air Lines, recommended by Salomon to Tokyo clients at a p/e of 560.

Moreover, the economic outlook remains good. Growth is picking up, inflation will rise but not rampantly and corporate profits are accelerating rapidly.

But the trauma of last week may make investors turn a deaf ear to analysts' arguments. Bloodied, bruised and bewildered by stocks' free fall, they might scramble to cash in their remaining profits and head for bonds.

There are few signs yet of a big switch into the credit markets. But the pace could pick up if the Federal Reserve fails this week to convince investors that it has a tight grip on inflation and interest rates. Confusion about what the central bank was up to worsened events last week.

The scale of the collapse looked particularly scary on Friday. The Dow Industrial index swung up a little and down a lot, through 188.5 points or 8 per cent, before some institutional buying near the close helped it to a final loss of "only" a record 108.36 points. New York Stock Exchange volume was a record 338.5m shares with 328.8m down and a scant 3.6m up.

Huge volume and whip-lash volatility were blamed once again on futures and options and the computer techniques used to play them. Black humour helped ease the tension and drama. Shearson Lehman Brothers' block traders erected a sign above their desk "To The Lifeboats."

While statistics cannot measure the anxiety level, they can offer some perspective. Friday's 4.6 per cent Dow drop was the sixth steepest in a day in percentage terms since World War Two, though only the 76th in the index's history.

The 17 per cent fall in the Dow from its August peak fails by a couple of percentage point to get into the top 10 biggest post-war declines. It was, however, bigger than the eight-month drop in 1984 between the first and second legs of the 1982-87 bull market and accomplished four times faster.

By any measure, last week was grim enough to silence even the unalloyed optimists who had been exuberantly forecasting a Dow at 3,600 by next summer. Now bullish forecasters are being more circumspect about exactly how far the Dow will go up.

Small investors could turn the most negative following the loss of those cheerleaders. Fidelity Investments, one of the top mutual fund and discount brokerage house in the US, said customer calls on its 24-hour trading lines were up about 30 per cent. Calls and redemptions, however, were running well below levels seen during the peak of the 1984 correction.

But a rocky start to the week could unleash a crescendo of selling by individual and institutional investors which could drown out Wall Street's attempts to strike up the band again.

Commonwealth stand on South Africa attacked by Thatcher

BY ROBERT MAUTHNER IN VANCOUVER AND TOM LYNCH IN LONDON

MRS MARGARET THATCHER, the British Prime Minister, yesterday launched a strong attack on Commonwealth leaders who condemned her lone stand blocking further economic sanctions against South Africa.

Her attack came after the Commonwealth Heads of Government conference ended in disagreement between Britain and its 48 partners over sanctions. The discord was compounded by a row over the way the British delegation had conducted its press briefings during the five-day conference.

Several of the most prominent leaders, including Mr Bob Hawke of Australia, Mr Rajiv Gandhi of India, Mr Robert Mugabe of Zimbabwe and President Kenneth Kaunda of Zambia, accused Britain of waging a deliberate "disinformation" campaign, aimed as discrediting Canada's sanctions policy, in particular, and the chairmanship of the conference of Mr Brian Mulroney, the Canadian Prime Minister.

Margaret Thatcher: lone stand

However, in an interview on BBC radio yesterday, Mrs Thatcher described as "very unjust indeed" a suggestion by Mr Mugabe that financial and racial motives lay behind the British stance, and she expressed irritation at objections by Canada to her presentation of figures showing that Canadian trade with South Africa rose sharply between 1985 and 1986.

Mrs Thatcher also said other Commonwealth heads had refused her request for British generosity towards the front-line states in aid and debt write-offs to be recognised in the final communique.

The Prime Minister said Britain had done more for Zimbabwe than anyone else. "We have helped them in aid. Mr Mugabe would not be there now if we had not brought them to independence."

She said the figures on Canadian trade with South Africa came from the International Monetary Fund. "We are accused of all sorts of things, and we are not expected to answer back. That is what they do not like. We are expected in a good tempered reasonable way to take attack after attack, after attack. You turn round and use one or two facts against them, and good Lord, they practically go up in smoke.

"Criticism is a two-way business. You have got to be even-tempered, even good-tempered about it. If you are a parliamentarian and used to the British Parliament you must take the hurly-burly twice a week. What a pity some of them do not have parliaments like that."

On the same programme Mr Gerald Kaufman, the opposition Labour Party's spokeman on foreign affairs, described her remarks about the trade statistics as "disgraceful and dishonest." Canadian trade with South Africa had fallen since sanctions were introduced at the start of this year.

"She is constantly peddling untruths and distortions and now she is doing it about the Canadian Government. She has never had any strong feelings about racial oppression at all."

At the end of the conference, Mrs Thatcher had the satisfaction of claiming that she had not budged an inch from her declared pre-conference policy and that the call by her partners for more severe measures against South Africa was devoid of any decision on specific new sanctions.

However, that result was achieved only at the cost of deepening the rift, not only between Britain and the African countries, but between Britain and the so-called "old" Commonwealth countries of Canada, Australia and New Zealand.

The most positive practical outcome of the conference was the general endorsement of a programme of co-ordinated

Continued on Page 26

Indian forces set to make final assault on Jaffna

BY MERVYN DE SILVA IN COLOMBO

INDIA'S peace-keeping force in Sri Lanka tightened its grip on the Tamil rebel stronghold of Jaffna city yesterday, pouring more troops into the area and claiming that it had captured the former headquarters of the Liberation Tigers of Tamil Eelam (LTTE) at Kapay Nort, just outside Jaffna.

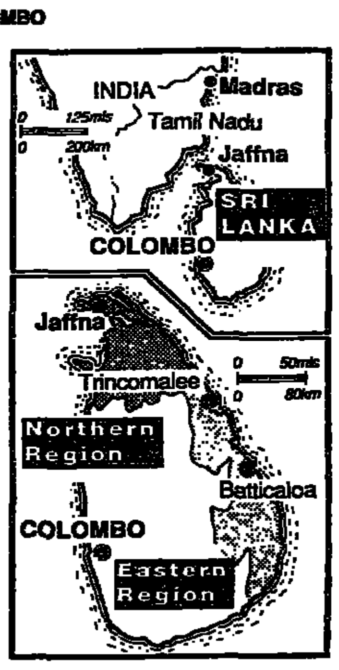
Earlier the Indian army claimed its forces had breached the city's perimeter, suggesting that a final assault is imminent.

The intensification came as Mr Rajiv Gandhi, the Indian Prime Minister, rejected the idea of negotiations with the Tigers, who have been holding out in Jaffna for the past nine days.

Speaking in Vancouver, where he has been attending the Commonwealth heads of government summit, he said the Tigers must end their opposition to a pact aimed at ending the island's bloodshed. "They should categorically surrender all the arms and amunition in their possession."

India is thought to have 6,000 troops around Jaffna where they have been fighting some 2,500 Tamil guerrillas. Reports reaching Colombo from India yesterday said a further 2,000 Indian troops were being sent to augment forces surrounding the city. India could now have more than 20,000 troops in Sri Lanka.

The Indian troops are thought to have opened a number of corridors to allow the evacuation of the 130,000 civilians in the city, who have been short of



food, medicines and electricity.

A final battle became a certainty when Mr Gandhi's Government rejected the Tamil Tigers' offer of negotiations and when a last minute appeal by Mr M G Ramachandran, the Chief Minister of Tamilnadu, for talks was rejected.

The death toll so far has been 104 Indian troops killed and 327 injured according to an Indian spokeswoman. Tamil Tiger deaths have been put at 551.

Peruvian pin-stripe freedom fighter sits it out

By Barbara Durr in Lima

MR FRANCISCO PARDO MESONES, president of Peru's Banco Mercantil, fancies himself a kind of pin-striped freedom fighter. He has been camped at his bank night and day since September 28 "to resist physically" the Government's nationalisation of his bank.

His is one of 10 private banks, 17 insurance companies and six finance companies that are to pass to the state under Peru's new law nationalising the private financial sector. The law, proposed by President Alan Garcia on July 28, went into effect on October 12.

In the three weeks since Mr Pardo began his vigil he has become a centre of national attention. What makes him fascinating in this country where government and business leaders regularly cut deals quietly behind doors is his open, stubborn defiance.

Government officials attribute Mr Pardo's flair for publicity to "his political blood". His grandfather was twice president of Peru, from 1904 to 1908 and from 1915 to 1919. And now he says that he will enter politics "because it's the only way to fight."

Officials want to avoid giving Mr Pardo the satisfaction of "carrying him out kicking" from his bank. But that may be difficult because he does not intend to give up.

The bank has become a social headquarters of the conservative opposition. Mr Pardo's family and friends visit him and a press contingent waits for the expected state intervention. Senators, congressmen, political party and business leaders have paid calls. "Sometimes the cocktail parties have gone on until four in the morning," Mr Pardo said.

But the tension shot up last week when heavily armed police violently seized Peru's top two private banks, the Banco de Credito and the Banco Wiese, and the Banco de Credito's finance company, Financiera de Credito.

Shocking even those who have supported the nationalisation plan, police battered down the door of the Banco de Credito with a small tank. Its employees have refused to work since then, while riot-equipped police remain in the bank. In rebel fashion they have sabotaged a reopening by disconnecting the computer.

Mr Pardo is convinced that a nasty scene is in the making for the Mercantil. He announced last Thursday that he gave his staff a 15-day leave with pay "to protect their physical safety."

There have already been brushes with dangers other than police intervention. Last

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Unesco gets new director after bitter votes battle

MR FREDERICO MAYOR, the Spanish biochemist and former education minister, was nominated yesterday by Unesco's executive board as the new Director-General of the United Nations Educational, Scientific and Cultural Organisation after a bitter electoral battle.

He defeated Mr Amadou Mahtar M'Bow, Unesco's controversial head for the past 13 years who was seeking a third term. Mr M'Bow decided to drop out of the final round of voting on Saturday night.

But Mr Mayor's election was held up by a long procedural battle which lasted until the early hours of Sunday morning as the supporters of Mr M'Bow asked for the right to vote not only for, but also against the single candidate in the final round.

Mr Mayor won a comfortable majority of 30 out of the 50 votes in the executive board. However, the 20 votes against him reflect the deep divisions which persist in the troubled, Paris-based organisation.

Most delegates expressed relief that Mr Mayor was finally chosen. His supporters believe he has the technical, managerial and political qualities to help restore credibility to the organisation which is now fighting for its survival.

Under the leadership of Mr M'Bow, the outgoing Senegalese Director-General, Unesco was plunged into the worst crisis of its 41 year history. Mr M'Bow was criticised by most Western nations for his poor management of the organisation and his anti-West attitudes.

The crisis reached a climax when the US and subsequently the UK and Singapore withdrew from the organisation in 1984 and 1985, depriving Unesco of 30 per cent of its budget.

Later, efforts were made to restructure the organisation, including the elimination of 800 jobs as well as trying to forge a degree of political consensus between Western and developing country members. But many member countries felt that the recovery of the organisation had to entail the election of a new director-general to replace Mr M'Bow.

Mr M'Bow bitterly attacked his opponents on Saturday night when he announced his decision to stand down. He claimed he had been the victim of political maneouvrings and dirty tricks to prevent him from winning a third term. A number of Western countries had in fact threatened to withdraw from Unesco if Mr M'Bow was nominated for another six-year term.

However, France broke ranks with the Western bloc and continued to support Mr M'Bow after the Pakistani candidate, Mr Yaqub Khan, withdrew from the race after the second round of voting. But after Mr M'Bow's decision to stand down on Saturday night, France voted for Mr Mayor, Mr Jean-Bernard Raimond, the French foreign minister, confirmed yesterday.

Mr Mayor's nomination must now be ratified on November 7 by the general conference of the 158 member organisation. However, he is widely expected to win the necessary ratification.

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Quentin Peel talks to Emile Noel, father of the European Commission, Page19

OVERSEAS NEWS

Paul Betts reports on the final night of debate in Paris which yielded a new director-general

Unesco leadership struggle opens new wounds

THE FIFTY members of the executive board of the UN Educational, Scientific and Cultural Organisation (Unesco) emerged in the early hours of yesterday from the agency's bunker-like basement conference room in Paris red-eyed and battered, but relieved after the most bitter electoral battle in the entity's 41-year history.

Even after Mr Amadou Mahtar M'Bow, the controversial Senegalese who was running for a third consecutive term as director-general, had dropped out of the race on Saturday night, an 11-hour procedural battle held up the final vote. At 6 a.m., Mr Federico Mayor of Spain, the only candidate left, finally emerged as the winner.

The withdrawal of the US, the UK and Singapore from the agency in 1984 and 1985 threw Unesco into crisis and deprived it of 30 per cent of its budget. Now the election battle has opened new scars and further undermined the credibility of the organisation.

In recent days, various other western countries including West Germany, Switzerland and Canada, had threatened to quit if Mr M'Bow were chosen for a third term. Like the US and the UK, these had become disillusioned by what they regarded as the mismanagement of Unesco by Mr M'Bow and by a growing politicisation of the agency.

MR AMADOU M'BOW's failure to hang on to his job as head of Unesco should significantly strengthen Mr Moise Mensah's chances of election next month to the top job in the UN's Food and Agriculture Organisation (FAO).

Mr Mensah is the the Organisation of African Unity's candidate to challenge the Lebanese Mr Edoardo Saouma, the existing FAO secretary general who, like Mr M'bow, has held his job for 12 years.

If Mr M'bow had held on at Unesco, the chances of another African capturing the leadership of a second UN agency would have been much weaker.

Mr Mensah, Benin's former Minister of Agriculture and now deputy director general of the International Fund for Agricultural Development, is strongly supported by nearly all of the FAO's main donor countries.

He told the *Financial Times* last week that he believed he already had a firm majority of the agency's 158 member countries ready to back him in the election on November 9.

Amadou M'Bow

Even after Mr M'Bow had bowed out, Mr Mayor failed to win a unanimous vote from the executive board. Indeed, 30 members voted for the Spanish former education minister but 20 voted against him. Mr David Wilson, the Canadian delegate, said the final vote represented "a politicisation of Unesco which we had not seen for more than two years". The agency was again undergoing a mini-crisis and the efforts of the past years to bring the various power blocs closer after the departure of the US and the UK had been undermined. The 20 votes against Mr M'Bow reflected the disappointment of a large number of members, Mr Wilson said.

Mr Mayor, whose nomination by the executive council remains to be ratified by the 158 member governments at Unesco's general conference on November, sought yesterday to calm the passions of the last few days. He claimed he had emerged as "the candidate of the executive council and not just the candidate of Spain. That means I'm also the candidate of the African bloc." He said his first concern would be the developing world, "especially Africa".

He also hoped that the US and the UK would work again with the agency, especially on scientific and environmental projects, preparing for their eventual return to the organisation.

However, he is likely to face a Herculean task in trying to heal the wounds and divisions of the last few years of Mr M'Bow's tenure. The spectacle of the last few days has done little to foster constructive dialogue between the industrialised West and the developing countries. A broad consensus had emerged among members from both sides that Unesco urgently required a new direction if it were to survive, but the respective sides seemed unable to adopt a common position when the chips were down.

The West, especially France, made what appears to have been a diplomatic blunder by miscalculating the support the Pakistani candidate, Mr Yacub Khan, could muster in the executive board. It was clear from start that the Pakistani foreign minister would not win approval from a large portion of developing countries and the Soviet bloc.

He withdrew after the second round of voting and then surrealism peaked when France announced it would support Mr M'Bow against the rest of the western bloc. Even after his withdrawal, France, anxious to keep a French speaker at the top of the Paris-based agency, made a point of paying tribute to the outgoing director-general. Mr M'Bow attacked the campaign and the alleged dirty tricks which had forced him to abandon the race, he said.

The African camp must also share the blame for the fiasco. Many African countries had expressed doubts, in private at least, over a third mandate for Mr M'Bow but they all rallied around their controversial candidate, making the search for a constructive solution more difficult.

It is the Soviet bloc that may have emerged in the best light. With four crucial votes in the executive board, it adopted from the start a pragmatic position. In the first four rounds, these votes went to the bloc's candidate, Mr Nikolai Todorov of Bulgaria. While stating that they had some "sympathy" for Mr M'Bow, the delegates never said they would vote for him in the final round. The Soviet Union hinted strongly last week that the eastern bloc was considering a switch to Mr Mayor.

By supporting him, the Soviet bloc thus seems to have tilted the balance in favour of the Spaniard. One member of the Soviet delegation confirmed yesterday that the eastern bloc had firmly backed Mr Mayor and had hoped he would be elected by consensus. The Soviet official also added that Mr Mayor was not the candidate of the West, but of everybody, because he had support from all regions of the world. Indeed, after the final vote, the Senegalese delegate, Mr Ibe Der Thiam, congratulated Mr Mayor and pledged "loyal support".

For Unesco and Mr Mayor, the most urgent task will be to try to restore some broad consensus between developed and developing so as to help heal the deep scars of recent years and put the organisation back on its feet. The election of Mr Mayor on Sunday morning has given the agency a reprieve.

'Mecca' of Korean democracy greets a political son

BY MAGGIE FORD IN KUSAN, SOUTH KOREA

THE PEOPLE of Kusan, South Korea's industrial capital city, decided to make a day of it. They gathered in their hundreds of thousands for a political picnic on Saturday, complete with lunch and drinks alongside the banners and pennants appropriate to a party rally.

The focus of the attention was Mr Kim Young Sam, leader of the opposition and candidate for the presidency in the election due in December. He did not disappoint his supporters in this mainly working class city.

Kusan, he told them to rousing cheers, was the Mecca of Korean democracy where dictatorship had been defeated three times in recent history. In 1979 riots against the regime of President Park Chung Hee had led to his assassination, in 1985 Kusan's voters had soundly beaten the ruling party in a national election, and in June this year they had held the strongest demonstrations in favour of democracy.

Those demonstrations led to the reforms introduced by Mr Roh Tae Woo, presidential candidate for the ruling Democratic Justice Party.

Mr Kim used Saturday's rally, his first in the election campaign, to spell out his poll promises.

They included:

- An end to corruption by public officials and fair hiring policies to eliminate discrimination.
- A welfare-based society where workers, farmers and the poor would share in the country's economic boom.
- The release of all political prisoners except Communists, and guaranteed protection of human rights.
- A major drive to establish a free press and television.
- Efforts to build trust with North Korea in a step-by-step programme for reunification.

Mr Kim's popularity in Kusan is enormous. His local credentials as a fighter for democracy since the 1960s, when he was first elected as South Korea's youngest ever member of parliament, highlight the regional basis of much of the support enjoyed by South Korean politicians.

Mr Kim's rival for the opposition candidacy is Mr Kim Dae Jung from the neighbouring province of Cholla, whose capital Kwangju was the site of a bloody uprising against the present Government in 1980. In September the latter Kim started his campaign for the presidency with a visit to his home toun where his welcome was even more tumultuous.

The strong support both men can command has caused a continuing struggle in the opposition party over who is to stand against Mr Roh. If both Kims stand, it is feared that the opposition vote could be split thus letting in Mr Roh. Mr Kim Dae Jung has said he plans to run but to step down at the last minute in favour of his rival if he feels his support is not strong enough to guarantee the defeat of Mr Roh.

The failure of the two Kims to agree on who is to stand has provoked some annoyance and could result in more votes for Mr Roh, but many observers feel it is too early to judge.

Mr Kim Dae Jung outlined the economic policy he would pursue if he became president to a group of 500 businessmen at the weekend. He said he would attempt to introduce free market forces into the economy, removing the big business groups from strict control by the authorities.

"Some fear that I would order the reshaping of conglomerates and confiscation of illicitly made fortunes," he said. "But I am not considering such drastic steps. I have confidence in liberal economic systems."

Kim Young Sam

EC in move to curb spending on agriculture

By TIM DICKSON IN BRUSSELS

A CRUCIAL new round of political negotiations to control EC spending on agriculture begins in Luxembourg today amid signs that the farm budget crisis is getting worse.

While the EC farm ministers meet to try to agree ways of at least stabilising the level of farm spending, EC foreign ministers will have their first thorough debate on a whole package of budget reforms.

The deadline set for both sets of ministers is to reach a deal in time for the EC summit in Copenghagen in December. That is already regarded as a tall order in Brussels, and even while they are debating the issues, the gap between static revenues and soaring spending in the Community is getting wider.

Figures announced by the Commission show that the Ecu 27bn proposed for agriculture in the Community's preliminary draft budget for 1988 is already too optimistic and that on present trends at least a further Ecu 1.7bn will be needed to cover the costs of market and price support.

A spokesman in Brussels yesterday explained that even this makes the assumption that EC Farm Ministers will soon embrace the idea of a Community tax on vegetable oils and fats - something they showed a marked reluctance to do earlier this year. *If they continue their* opposition to this fund-raising device, another Ecu 2bn could be added to 1988 farm spending, bringing the total to Ecu 30.7bn. Under budget discipline rules agreed in 1984, farm spending next year should be no more than Ecu 22bn.

Today's Farm Council in Luxembourg, however, has much more than even these pressures at stake. Farm Ministers' agreement to a wide-ranging package of Common Agricultural Policy (CAP) reforms - known as 'stabilisers' - is now seen as vital if EC Heads of State (notably Mrs Thatcher) are to accept Commission President Jacques Delors' request for a substantial increase in the EC's own resources.

This week's meeting, which is expected to end tomorrow night, will concentrate most of its energies on the Commission's proposal to set a ceiling - or maximum guaranteed quantity - on EC cereals support. Only West Germany appears at this stage to be adamantly opposed to the suggested figure of 155m tonnes, but there is disagreement over what methods should be used.

The foreign ministers have to consider all other aspects of the financial reform package proposed by the EC. They are supposed eventually to decide on a new basis for raising cash contributions from the member-states, how and if to provide *more money for social* and regional spending, and the basis for any future rebates to major contributors.

Belgian king expected to act over political crisis

SPECULATION WAS mounting in Belgium last night that King Baudouin will today make his widely anticipated move to ease the country's political crisis, writes Tim Dickson.

On Thursday the king refused to accept the resignation of Wilfreid Martens, the Prime Minister, putting the decision 'into suspense.' He has since held consultations with key party leaders in an effort to determine the next move.

A palace spokesman said last night that all meetings had now taken place but added: 'I don't know when the king will reply or what he will say.'

Last week's resignation came after frantic attempts to find a solution to Belgium's deep-rooted language dispute had failed to win the agreement of all the four parties in Mr Martens' centre-right coalition.

Opinion is divided on whether the French-speaking Social Democrats (the PLSC) will break with the governing parties to form a coalition with the Socialists or whether the present government (which also comprises right-wing liberals) can still survive.

US gives few clues on response to Iran missile attack

BY TONY WALKER IN DUBAI

THE US appeared to be still undecided at the weekend whether to retaliate militarily against Iran following the Iranian missile attack on Friday on an US-flagged tanker in Kuwaiti waters.

Opinions are mixed in the Gulf as to whether the US will feel compelled to hit back at the latest Iranian provocation. Some observers believe the US risks serious loss of face if it does not retaliate. But Gulf states, including Kuwait, are believed to be urging restraint.

Among possible Iranian targets are the missile batteries responsible for Friday's attack and the Farsi Island revolutionary guards naval base in the northern Gulf.

Mr George Shultz, the US Secretary of State, gave an ambiguous response to questions about how the US might react. 'When we have decided to take action and have taken it, you will know what it is,' he said at a news conference in Jeddah, Saudi Arabia, declining to speculate on what action the US might take or when it might come.

However, some officials, dampening speculation that the US may retaliate, noted that the attack on the 81,000-tonne Sea Isle City occurred in Kuwaiti waters and that the ship was not under US naval escort at the time.

The US would have had no choice but to retaliate if the attack had happened in international waters while the vessel was under US naval protection.

President Reagan in remarks at the weekend left open the possibility of military action. 'Freedom of navigation in international waters is a cardinal principle of our policy and, especially in that region of the world, a vital interest,' he said in his weekly radio broadcast.

A Republican congressman, Senator Gordon Humphrey, summed up the US dilemma when he said: 'If we do nothing, we look like wimps. If we do something, we're in even deeper.'

A Western official in Kuwait said the US was taking care not to be stampeded into a quick response, but he added that if there was a further Iranian attack on a US-flagged vessel under similar circumstances it would be impossible for the US to ignore such a provocation.

'These attacks, if they continue,' he observed, 'would make a nonsense of the whole escort business.'

Half Kuwait's tanker fleet of 22 ships has been reflagged and two of the tankers flying the Stars and Stripes have now been damaged: the supertanker Bridgeton hit a mine in the northern Gulf in July while under escort and now the Sea Isle City has been put out of commission by an Iranian missile.

Kuwait has protested to the United Nations over the missile attack.

The missile inflicted extensive damage to the ship, ripping a huge hole in its side and crashing through seven separate bulkheads.

US and Kuwaiti explosives experts have been examining the wreckage to determine what kind of missile was used in the boldest Iranian strike yet against the US presence in the Gulf.

MR MIR HOSSEIN MOUSAVI, the Iranian Prime Minister, began a three-day visit to his country's main Arab ally yesterday, before an Arab summit expected to promote full backing for Iran's Gulf war enemy, Iraq, Reuter reports from Damascus.

Diplomats said that Mr Mousavi was expected to seek Syria's help in preventing a total Arab breach with Tehran at the summit, to be held in Amman from November 8.

Mr Mousavi's visit follows a missile attack on a tanker flying the Stars and Stripes in Kuwait waters on Friday, sharpening fears for the security of conservative Gulf states.

The Damascus talks are the second involving senior Iranian officials in three days - an indication of the importance Tehran attaches to Syria's role in the region.

Mr Mousavi's deputy, Mr Alireza Moayeri, had talks on Thursday with Syrian Prime Minister Abdel-Rauf Al-Kasm and Foreign Minister Farouq Al-Shara.

Diplomats said the earlier discussions focused on the Gulf war and the plight of foreigners held hostage in Lebanon.

US experts see holed tanker

By Joan Wucher King in Kuwait

KUWAITI and American military experts went on board the Sea Isle City tanker over the weekend to review the damage following a hit by an Iranian missile in Kuwaiti waters on Friday.

The tanker is in Shuwaikh Harbour undergoing repairs which Kuwait Oil Tanker Company engineers estimate will take 35 days.

Journalists, who went aboard yesterday, saw a large hole blasted into the first floor of the tanker's accommodation quarters above the deck.

Crewmen aboard the ship when the missile hit said they had been thrown 3ft by the impact. Fire spread rapidly in the accommodation quarters and there was heavy damage on A Deck where the missile penetrated, leaving a large gaping hole.

Cabin partitions were burned away and the cargo control room and officers' galley were gutted. The missile finally lodged in the fore wall of the engine room.

The Filipino crew will be flown home later this week. Unsurprisingly they are reluctant to return to the Gulf though they believed Sea Isle City's American flag had protected them on the journey to Kuwait.

Shultz rebukes Shamir 'immobility' on Middle East

BY ANDREW WHITLEY IN JERUSALEM

MR GEORGE SHULTZ, the US Secretary of State, yesterday delivered a pointed rebuke to Israel's Prime Minister Yitzhak Shamir, publicly criticising his immobility over the Middle East peace process.

In a message apparently intended to reassure the Arab leaders he will see later on his current Middle East tour, about the US' determination on the issue, Mr Shultz criticised 'those who are reluctant to explore new ideas' or who 'fail to offer anything more than a status quo'.

Speaking in Rehovot, near Tel Aviv, on the second day of his visit to Israel, the US Secretary said: 'No-one improves the chances for peace by doing nothing at all, by just sitting around.' The right-wing Israeli leader has frequently been criticised for his negative stance, and Mr Shultz' visit, which ends today, has clearly done little to soften his intransigence.

In another assessment of Middle East peace prospects, Mr Shultz stated yesterday that despite thorough discussions, he 'could not point to anything which points to progress'. Nor had he apparently made much headway in reducing the wide gap between Mr Shamir and Mr Shimon Peres, the Labour leader, over how to achieve peace talks with Jordan.

In a blow to US hopes of producing a modest degree of progress on the Arab/Israel dispute, a group of prominent Palestinian leaders yesterday boycotted a planned meeting in Jerusalem with the Secretary of State.

Despite repeated telephone entreaties from US diplomats, none of the 10 invited guests showed up to the scheduled 45-minute meeting, leaving Mr Shultz with an embarrassing hole in his otherwise tight schedule. But diplomats at least succeeded in scotching the Palestinians' plan to send an uninvited guest - Mr Mustafa Natshe, the deposed Mayor of Hebron, a hardline nationalist - in their place, with a petition.

Noting that the Palestine Liberation Organisation had called on its supporters in the occupied territories not to have anything to do with him, Mr Shultz said later that some of the invited Palestinians - mostly pro-Jordanian moderates - had been threatened. Their boycott contradicted the fact that they '(the PLO) say they want to be heard, he commented.

Shultz: pointed rebuke

EC ban on hormones in meat faces delay

By Tim Dickson in Brussels

A PLAN which could allow some European countries to delay implementation of a controversial EC ban on hormones in meat production is expected to be presented to EC farm and foreign ministers in Luxembourg tomorrow.

The idea will be put forward by Mr Frans Andriessen, the EG Agriculture Commissioner, who has already warned member states about the international trade implications of going ahead with the prohibition, which comes into effect on January 1.

The US, for example, has been threatening to retaliate against European products if its $130m of meat exports (mostly in the form of offal) are excluded by the new legislation. Australia, Argentina and other non-EC countries will also be affected.

The campaign against the hormone ban, which is also strongly supported by the pharmaceutical industry, rests on the argument that it has no scientific justification and was imposed for political motives.

All member states except France (and including Britain which voted against the original decision in December 1985) have now passed their own laws to conform with the EC directive. But some remain unhappy about the mechanisms which have been set up to enforce its provisions.

Under the Commission's plan, individual member states would be allowed to delay their implementation of the directive for a given period in order that practical problems could be resolved. An article in the legislation specifically provides for this possibility.

Were ministers to approve the idea and the French to take advantage of the facility, US anger might be assuaged since a large proportion of US meat exports go to France.

There is no guarantee, however, that Washington, which is seeking a delay to the entire directive, will be impressed. Indeed it is possible that the Americans may step up their retaliatory threats later this week.

Another indirect attack on the hormones ban suffered a setback last week when the Advocate General of the European Court of Justice rejected a British challenge that the original decision should have been unanimously approved by member states, rather than by a qualified majority.

Canadian mail strike called off

By David Owen in Toronto

MEMBERS OF the 23,000-strong Canadian Union of Postal Workers drifted back to their jobs over the weekend, in compliance with a tough back-to-work bill shepherded through Parliament by the Conservative Government.

Announcing the decision to call off the 17-day old strike, CUPW president, Mr Jean-Claude Parrot said that while he felt it would be "morally justifiable to defy this legislation", the union would not be goaded into taking a step which the Government and Canada Post hope would "effectively destroy" it.

The union will continue and intensify its fight by "new, innovative and imaginative means", Mr Parrot added, predicting that "the population will get rid of this government in two years but CUPW will still be there."

Under the law, all union officials are compelled to order their members back to work or face stiff financial penalties. A mediator/arbitrator will now be appointed with powers to impose a settlement if initial attempts to help the two sides to reach agreement fail.

The union called the strike to protest a programme to replace union-staffed postal stations with non-union franchises as part of a government plan to erase the postal service's operating deficit, which last year totalled C$129m (£60m), by 1988.

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Ozal beats poll date challenge

By David Barchard in Ankara

MR TURGUT OZAL, the Prime Minister of Turkey, appears to have beaten off a challenge from opposition parties in parliament and got the country on course again for early elections, though these will now have to be held on November 29 rather than on November 1 as originally planned.

However, opposition parties are still dangling the threat of an election boycott and seem likely to apply once more to the constitutional court to cancel some of the legislation.

Mr Ozal emerged the victor after a stormy session of parliament, lasting into the small hours on Saturday night, revised the election law passed in September but partially annulled on October 9 by the constitutional court.

Despite fears that defectors from the ruling Motherland Party could endanger his majority, Mr Ozal won by 238 to 132 in the assembly when the first vote was taken. The opposition parties then left the chamber and the remainder of the debate was conducted by the government side alone.

One consequence of delaying the election date is that 2.4m Turks who were banned from voting for five years by the military regime in 1982 will now be able to vote. The ban, intended as a punishment for boycotting the 1982 referendum, expires on November.

It is assumed that most of the re-enfranchised voters will support the opposition. This may not, however, be a great danger for Mr Ozal.

Opinion polls suggest the Motherland Party is far ahead of any of its rivals. An opinion poll in yesterday's Milliyet newspaper, for instance, gives the Motherland Party 45.6 per cent of the votes compared to 15.4 per cent for the second runner, the Social Democracy Populist Party.

Despite or perhaps because of this gap the opposition parties are still doing their best to make the election campaign grind to a halt.

Two former prime ministers, Mr Bulent Ecevit and Mr Suleyman Demirel, are believed to favour an opposition boycott of the general elections and the all-out war between Government and opposition looks like carrying on for the next few weeks.

Brazil seeks to defend debt status

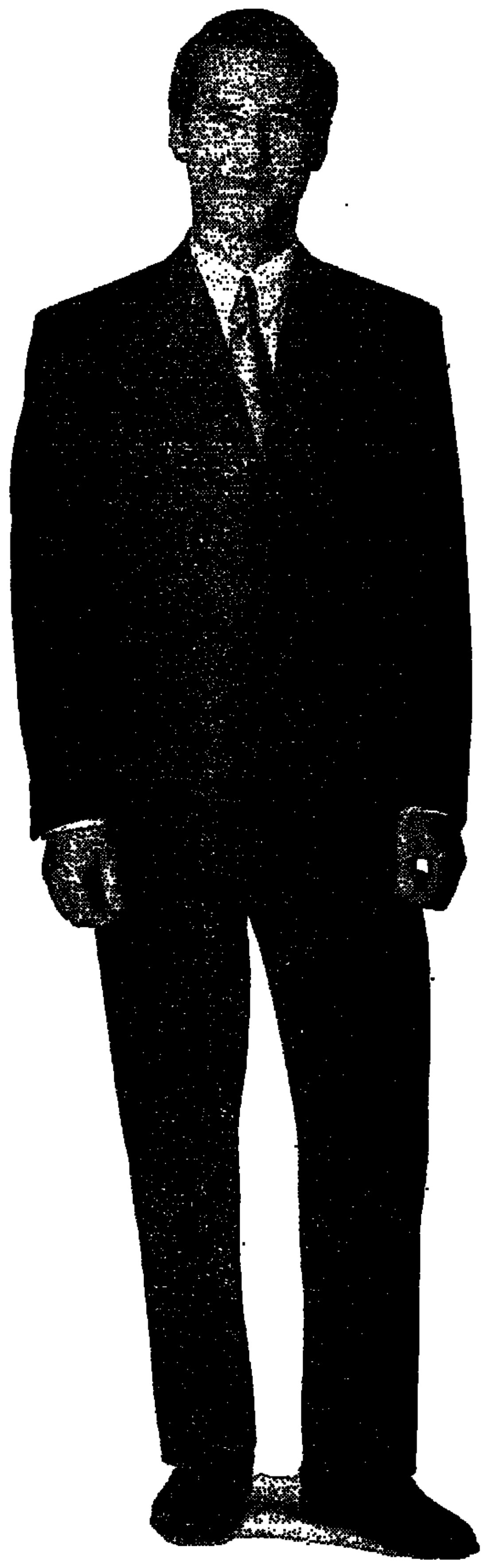
BY ALEXANDER NICOLL

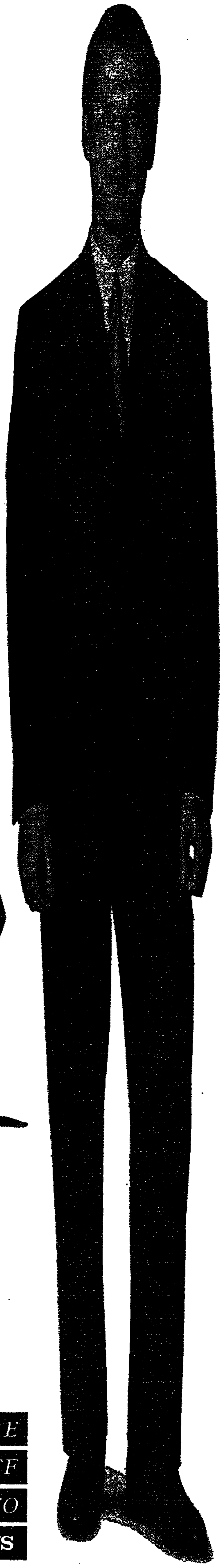
Mr Fernando Milliet, Brazil's central bank president, is due to meet the advisory committee of country's leading creditor banks in New York today for talks aimed at heading off a decision by US regulators to downgrade Brazilian debt.

A review committee of representatives from the Comptroller of the Currency, the Federal Deposit Insurance Corporation and the Federal Reserve is due to meet a week from today. Because Brazil has paid no interest since February, the committee is likely to consider seriously whether to declare Brazil's debt "value-impaired".

This would force new losses on US banks and considerably reduce the chances that banks would agree to make any new loans to Brazil - it has requested $10.4bn of new money.

Bankers and Brazilian officials have been meeting informally for the past two weeks. Though banks found unacceptable a Brazilian proposal put last month, the two sides have been discussing issues including Brazil's economic position.





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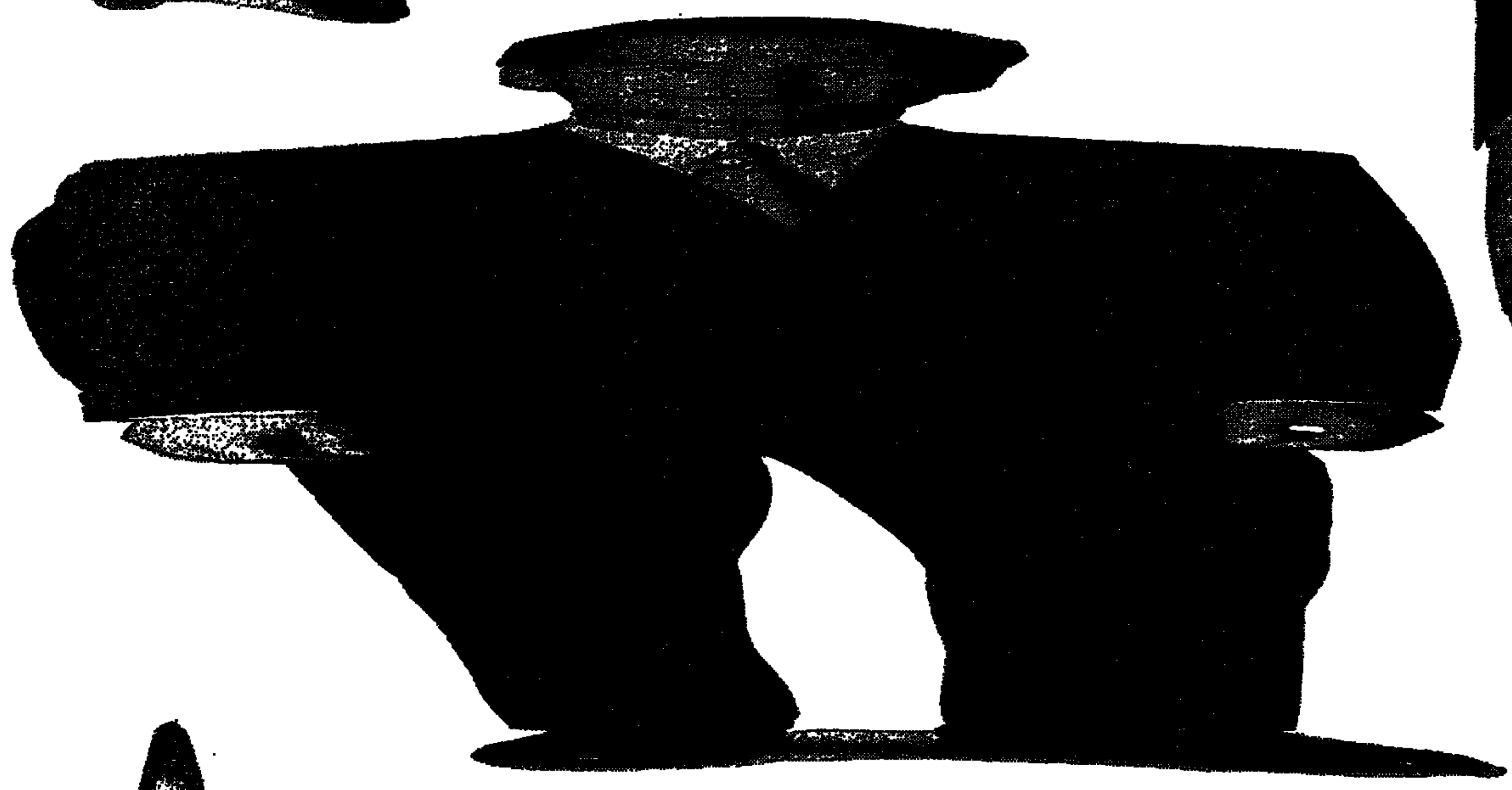

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OVERSEAS NEWS

France insists European space project go ahead

BY PETER MARSH IN PARIS

FRANCE APPEARS determined to press ahead in calling for western European support for its controversial crewed spacecraft project, Hermes. This will provoke a row at an important meeting next month to decide a long-term space plan for western Europe.

Mr Frederic d'Allest, Director-General of CNES, the French national space agency, said that France was not prepared to agree to a postponement of Hermes to acccommodate the view of other countries, notably West Germany and Britain, that the project was becoming too expensive.

He scotched reports that France was about to agree to a West German plan to put off the development phase of Hermes for three years, and said he would like it to begin with 1988.

A decision on Hermes – plus two other big space projects, the development of Ariane-5, an improved version of the European satellite launcher, and of Columbus, a crewed orbiting laboratory – is due at a ministerial meeting of the 13-government European Space Agency in the Hague on November 9 and 10. Columbus is due to be the European contribution to a US-led international space station planned for the mid-1990s.

France is the space agency's largest paymaster, providing roughly a quarter of its annual budget of about $1.7bn. CNES has a budget of about $900m, 40 per cent of which is spent through the agency.

Hermes, a miniature version of the US space shuttle which would zoom into orbit on top of an Ariane rocket, has provoked concern because of rising cost estimates, which have nearly doubled to about $5bn since the project was first seriously mooted three years ago.

With the cost estimates for Ariane-5 and Columbus also having risen, by about 50 per cent to roughly $4bn for each project, agreement to all three projects at the meeting in the Hague would mean the annual agency budget soaring to about $3bn by the mid 1990s. All three projects would be due to finish by about 1997.

Hermes would provide an independent European way to take people to and from orbit – a necessity for handling the large and complex space payloads likely to be important after 2000, he added, Mr d'Allest said.

To start the development phase of Columbus without doing the same for Hermes would not make sense, because Hermes would act as the supply vehicle to the crewed Columbus laboratory. France would find efforts to postpone Hermes "politically unacceptable," said Mr d'Allest.

The French space supremo dismissed the notion that Hermes was over-ambitious, arguing that, even if all three of the big space projects were to go ahead, the agency's total budget would still be about a quarter of the total that the US spends each year on civilian space science and technology.

Mr d'Allest said he regretted the UK decision not to increase its subscription to the agency, but the overall effect on the programmes would be small.

He fundamentally opposed the thought that, by proceeding with Hermes, western Europe would be over-reaching. "Hermes would start taking people into orbit about 1998. That's years after Gagarin (the world's first spaceman). Do you call that a rush?"

Spain scraps N-waste scheme near border

BY DAVID WHITE IN MADRID

SPAIN HAS scrapped plans for an experimental nuclear waste project near the Portuguese border after strong protests by Portuguese officials and local groups.

Mr Javier Solana, the government spokesman, said the plan for an underground pilot station at Aldeadavila de la Ribera, in the west of Salamanca province, had been dropped because of problems in obtaining the EC share of finance. Portugal had lobbied hard in Brussels to get the project stopped.

The Government has however given the go-ahead for the remainder of a long-term programme for radioactive waste disposal drawn up by the state-owned body Enresa. A decision of permanent sites for storing nuclear waste is not due before 1999. Under the 40-year plan, total costs estimated at $6bn are to be borne by the companies producing the waste.

Mr Solana said that the controversial Aldeadavila project had always been conceived as a research laboratory and not as a dump, as was frequently alleged in Portugal. All EC countries were interested in investigating granitic zones such as this for storing high level radioactive waste, and Spain would continue to collaborate with its partners on research in this sector, he said.

Time running out for the Yugoslav economy

Judy Dempsey looks at the task facing Prime Minister Branko Mikulic

WHEN Mr Branko Mikulic, the Yugoslav Prime Minister, stands up in the federal assembly in Belgrade today he will be expected produce some radical solutions to the country's economic problems.

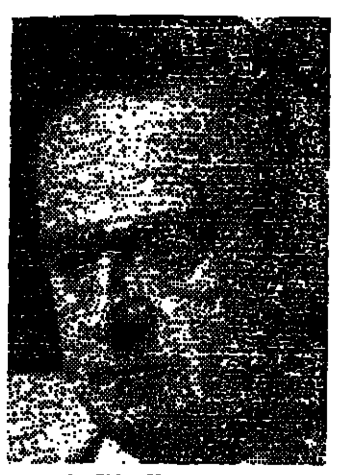
His task is unenviable and almost impossible. There are no quick solutions to Yugoslavia's economic crisis. Inflation is running at 120 per cent and cynics in Belgrade quip 'at least we haven't enough time to make it to 200 per cent by the end of the year.'

The country's $20bn foreign debt will take several years to pay back and economic growth is running at a disappointing 1 to 1.5 per cent a year, which economists describe as stagflation in light of the rampant inflation. Significant structural changes to the economy will be needed to improve growth.

If these factors, which are eating into Yugoslavia's self-confidence, are not tackled, nationalism and political in-fighting will become more pronounced, exacerbating already deep social and economic divisions in the country.

The question is how and at what cost Mr Mikulic will be able to push through an economic reform package which will satisfy Western banks, pacify those Yugoslav economists who want a more market-oriented economy and reassure the country's consumers who want an end to the crippling inflation.

The first thing Mr Mikulic needs is time. "We cannot continue to live with a situation whereby 50 per cent of our export earnings go to servicing our foreign debt," says Mr Juri Bajic, Professor of Economics at Belgrade University, who is also a leading member of of Serbia's ruling Communist Party.



Branko Mikulic: facing crisis

Mr Bajic, an energetic Slovene who keenly supports a more dynamic market-oriented economy, would like to see about 25 per cent of the country's foreign earnings being channelled into repaying the debts. The rest, he says, should be used for internal development.

That may sound reasonable to Western banks. But can they be sure that rescheduling would be used to restructure the economy? This issue, says Mr Bajic and other economists, will have to be addressed by the Prime Minister.

One of the more frustrating aspects of the Yugoslav economic system is the amount of time it takes to make decisions. Even if Mr Mikulic comes up with a package, his proposals will have to pass down to the six republics and two autonomous provinces where they will be discussed endlessly.

It is therefore no surprise to hear economists describe Yugoslavia as a country with eight separate communist parties, each trying to protect its own interests and power bases. The length of time it takes to make decisions affects enterprise managers as well. "If there is one thing we want from Mr Mikulic it is an end to regulations," several managers commented.

"Instead of enterprises being economy-oriented, they are actually blocked with administrative rules which keep changing," explains Mr Bajic. As inflation increases managers are increasingly preoccupied with adjusting their prices and worrying about strikes. Mr Bajic thinks that the Prime Minister should start cutting back on the elephantine bureaucracy and let managers get on with running their enterprises.

That will mean managers being allowed to set their own prices, about 40 per cent of which are controlled. Under a recent law some prices cannot be increased during a 90-day period. Inflation has made it impossible to stick to that ruling.

Some economists reckon the economy could be slowly turned around by measures such as matching interest rates with inflation and introducing overall price reform.

But economists are seeking not only price reforms. They are seeking a long-term strategy which, they say, should focus on a move away from extensive to intensive economic development and the encouragment of small-scale industries.

Mr Bajic and others have no doubt that Yugoslavia's economic future depends on these changes. He says the republics built too many white elephants during the 1970s, particularly in heavy industry.

For political reasons the individual republics are loathe to admit these mistakes. Such "prestige" industries provided the local political elites with considerable power and the surrounding regions with employment and easily earned wages.

Such projects have led to many enterprises being supported by large subsidies. Few are likely to come out of the red. Examples such as Agrokomerc, whose manager, Mr Fidrik Abdic, issued more than $800m of unbacked promissory notes, indicate the absence of any impartial system of accountability, either in the individual republics or the Yugoslav system as a whole.

As a result the Yugoslav authorities are now faced with the prospect of closing down enterprises and risking increasing unemployment.

If small-scale industries were encouraged, economists argue, some of the unemployment would be quickly mopped up, untapped potential, smothered by red tape, would be exploited and even those Yugoslavs working abroad might be tempted to invest at home.

In Slovenia a flexible Communist Party has fostered a more outward-looking and export-oriented economic atmosphere. In other republics, by contrast, those who apply for a licence to set up a small private enterprise have to wait up to six months for a reply to their application. The Economic Chamber of Commerce in the republic of Serbia is now insisting that all applicants should receive a reply within 15 days.

Mr Mikulic now needs the political authority to say that the interests of the national economy must prevail over local interests and that local political elites must withdraw from interfering in the economy.

These changes Mr Bajic and other economists admit will demand both time and change in mentality. Given the seriousness of the economic crisis in Yugoslavia, the growing consensus is that now is the time and probably the last opportunity to introduce a radical economic programme.

In a surprise move, Albania agreed to take part in a meeting of foreign ministers of six Balkan countries to take place early next year in Yugoslavia, Aleksandar Lebl reports. Albanian acceptance of the Yugoslav initiative was contained in a letter by the Albania Foreign Minister to his Yugoslav counterpart last week. Bulgaria, Greece, Romania and Turkey replied positively some time ago.

The decision, favourably commented on in Belgrade, is to surprising because earlier statements of Mr Ramiz Alia, the Albanian leader, have been interpreted as the rejection of the initiative and Albania has constantly condemned similar international meetings. That includes the conference on security and co-operation in Europe in Helsinki and the follow-up meetings.

It is thought that the Albanian leadership has decided that participating in the meeting proposed by Mr Raif Dizdarevic, the Yugoslav General Secretary for Foreign Affairs, would not harm any Albanian interest and could improve its image as a good and co-operative neighbour.

The agenda for the meeting has not been fixed, and it is likely that the meeting will be informal. To Belgrade the main thing is to start the process of normalisation and co-operation in the Balkans where disagreements and disputes abound.

OVERSEAS NEWS

SAS to fly non-stop to Peking from April

by Sarah Webb in Stockholm

SCANDINAVIAN Airline System (SAS) has won permission to start non-stop flights from Copenhagen to Peking over the Soviet Union, thereby cutting its flying time by half to 8½ hours.

These are to begin next April and be maintained for an initial period of seven months.

Also, the airline plans to become involved in a joint venture with the Swedish construction group Skanska, in the building of a hotel in Peking, and SAS already has a role in the complete rebuilding of the airport hotel at Peking.

It is pushing also for a contract as an outside adviser to the Chinese airline CAAC, which wants help in expanding its domestic business because only 4 per cent of the population fly each year, said SAS.

SAS regards Peking as a very important destination in that Sweden and Norway are both eager to develop business in China.

The airline said it expects the flights to attract customers from outside Scandinavia because of their short duration. However, at present a condition of the agreement with the Soviet Union is that, after seven months, the flights will have to stop in Moscow, which will mean a flight of 13 to 14 hours.

SAS has been flying to Bangkok and has an agreement to use Thai Airways to fly passengers on to Hong Kong and Peking. This arrangement will still be used, SAS says.

The Chinese national airline, meanwhile, is still awaiting permission from Moscow to fly over Soviet territory to Scandinavia.

Extra tankers are beating the blockade, writes **Richard Johns**

Tehran keeps up its oil output

IRAN succeeded in maintaining oil production at at least 2.2m barrels a day in the first 10 days of October despite the intensive air raid on Larak Island,its main transhipment terminal,earlier this month, according to industry calculations.

A big mobilisation of chartered tankers for the shuttle run to Larak Island and for storage there has enabled it to withstand the blockade.

Its performance has also been helped by the offer of an extra 30 days of credit,equivalent to a discount of 15 cents,described by one oil executive as "a slight fraying of the edges of official selling rates".

To overcome buyer resistance in the future,meanwhile,Iran is reported to be making moves to secure storage facilities in West Europe and the Far East with the intention of selling crude on a delivered basis with carriage,insurance and freight paid.

Industry estimates also show that Iranian production ran at a level close to or above Iran's quota of 2.369m b/d under the Organisation of Petroleum Exporting Countries' output sharing pact during September following the resumption of Iraqi attacks on oil traffic at the end of August after a six-week lull in the Gulf tanker war.

So far this year it has sustained an average of 2.3-2.4m b/d and exports in the order of 1.7-1.8m b/d a fter taking into account local consumption estimated at 600,000 b/d. At the same time Iran has had to import in excess of 200,000 b/d of products because of war damage to its refineries.

Thus,Iran has been able to generate sufficient hard currency earnings to keep its war machine ticking over. Its level of output would probably have to be reduced to something like 1.5m b/d for it to grind to a halt, in the opinion of most diplomatic observers and independent analysts.

Per-barrel receipts,however,have been significantly eroded by the cost of the shuttle service and floating storage.

Since June, Iran has nearly doubled the number of tankers engaged in its hazardous transport operation from about 15-16 vessels to nearly 30, according to a recent edition of the authoritativeMiddle East Economic Survey.

Iran is reckoned to have 20 crude oil tankers and nine product carriers engaged on the shuttle between Kharg Island and Larak Island,according to the Nicosia-based newsletter. In addition,it has seven vessels providing storage for upto 20m barrels of crude,including the 564,739-ton Seawise Giant,the world's biggest Ultra Large Crude Carrier, which was hit in the October 5 attack- and another eight with a capacity of 12m barrels for products.

Iraq's output surged from about 2.2m b/d in August to an estimated 2.4m b/d following the completion of the expansion of the pipeline to Turkey's Mediterranean coast which has given the facility an extra capacity of 500,000 b/d and a full potential of 1.5m b/d.Actual throughput in September was 1.38m b/d.

In practice, Iraq would have enjoyed only a marginal increase in oil revenue. At the end of August Saudi A... and Kuwait finally terminated the arrangement dating back to early 1983 whereby they supplied Iraq with 250,000b/d of "war relief" crude from the Neutral Zone with the Kingdom providing an additional 60,000 b/d of Arabian Light. Saudi Arabia and Kuwait both refused to regard the oil - notonally repayable in kind at some later date- as part of their Opec quotas. To judge by their September output levels - both were in excess of their entitlements if output from the Neutral Zone is included - they still see the shared territory as outside the scope of their commitments.

Turkey exports at all-time monthly record

TURKEY'S EXPORTS in September were an all-time monthly record of $1.1bn, more than double last year's September figures, and close to the $1.2bn import figure during the same month.

The trade deficit for the first nine months of the year was $2.8bn, 12 per cent lower than the 1986 deficit in the same period.

The improved export performance comes almost entirely from trade with OECD countries, as trade with the Arab Middle East languishes.Most of the increase in imports came from consumer goods, which are running at about 16 per cent higher than last year.

SHIPPING REPORT

Idle tankers may stay inactive

By LYNTON McLAIN

OVER a quarter of the tonnage of the 35 supertankers and combined carriers over 200,000 deadweight tonnes laid up and lying idle for more than two months are unlikely to trade again, according to E.A.Gibson Shipbrokers, in a report published at the weekend.

In addition, a total of 26 supertankers and combined carriers, with a total of 8.5m dwt are estimated to be in storage.

A total of 88 tankers and combined carriers across the whole range of tonnage were inactive on October 15, according to the report and a total of 46 tankers and combined carriers were in storage.

The 88 inactive vessels, with a total of 14.7m dwt this month compared with the 115 inactive vessels, with a total of 17.75m dwt, inactive in the same month last year.

Very little alteration has taken place in the balance of tankers in the various sections despite the great increases in the value of vessels for scrap. Tanker owners are "still loth to commit undamaged vessels for scrapping, in anticipation of earning increased freighting returns," the shipbrokers said in their report.

High premiums are obtainable for tanker owners willing to commit their vessels to load in the "dangerous waters north of Ras Tanura," in the Gulf, the company said. There have nevertheless been enormous fluctuations in crude oil tanker freight rates for large vessels operating out of the Gulf.

US to seek tighter curbs on Moscow

By Stewart Fleming,US Editor

The Reagan Administration is planning to propose to its allies that the US will eliminate export controls except on the most sensitive goods provided the allies take vigorous steps to tighten their own controls on the export of goods to Soviet bloc countries.

US officials are planning to take these proposals to 14 allied capitals in Western Europe next week. Washington wants its allies in the Cocom agreement to legislate heavier fines and prison terms for export control violations,enlarge inspection staffs and improve methods of identifying buyers in order to tighten up their export controls.

It will also be asking its allies to pay a bigger share of Cocom's costs.

The new proposals would also appear to be designed as a further effort to head off legislation in Congress which would ban imports from Toshiba of Japan.

Both the House and the Senate have moved to punish Toshiba for its failure to control exports of high technology machine tools which have been used by the Soviet Union to improve the construction of submarine propellers so as to reduce the amount of noise they make,making it harder for them to be detected by the US.

African famine fear

Five African countries - Angola, Botswana, Ethiopia, Malawi and Mozambique - face famine and will need large relief supplies, the Food and Agriculture Organisation said,Reuter reports.

Serious crop failures in Ethiopia were now inevitable.

Taiwan plans tariff cuts on more than 3,500 items

By BOB KING IN TAIPEI

TAIWAN plans sweeping tariff cuts averaging 50 per cent on more than 3,500 major imports as part of an ongoing programme of trade-policy reform that will mean increased sales opportunities for foreign suppliers.

The finance ministry at the end of last week released a shortened list of items, including garments, fabric, footwear, consumer electronics items, household appliances, and industrial and farm products, marked for the tariff cuts.

Under the proposal, which will be sent to the Cabinet this week for approval, duties on colour televisions will be cut from 35 to 20 per cent; apparel and textiles from 30 to 12.5 per cent; footwear from 15 to 5 per cent; and video tape-recorders from 45 to 30 per cent. Other items include chocolates, processed food, cosmetics, toys, and medicines.

The goods subject to reductions represent 81 per cent of the total on Taiwan's tariff schedule. They could become effective early next year if the Cabinet and Parliament make no major revisions.

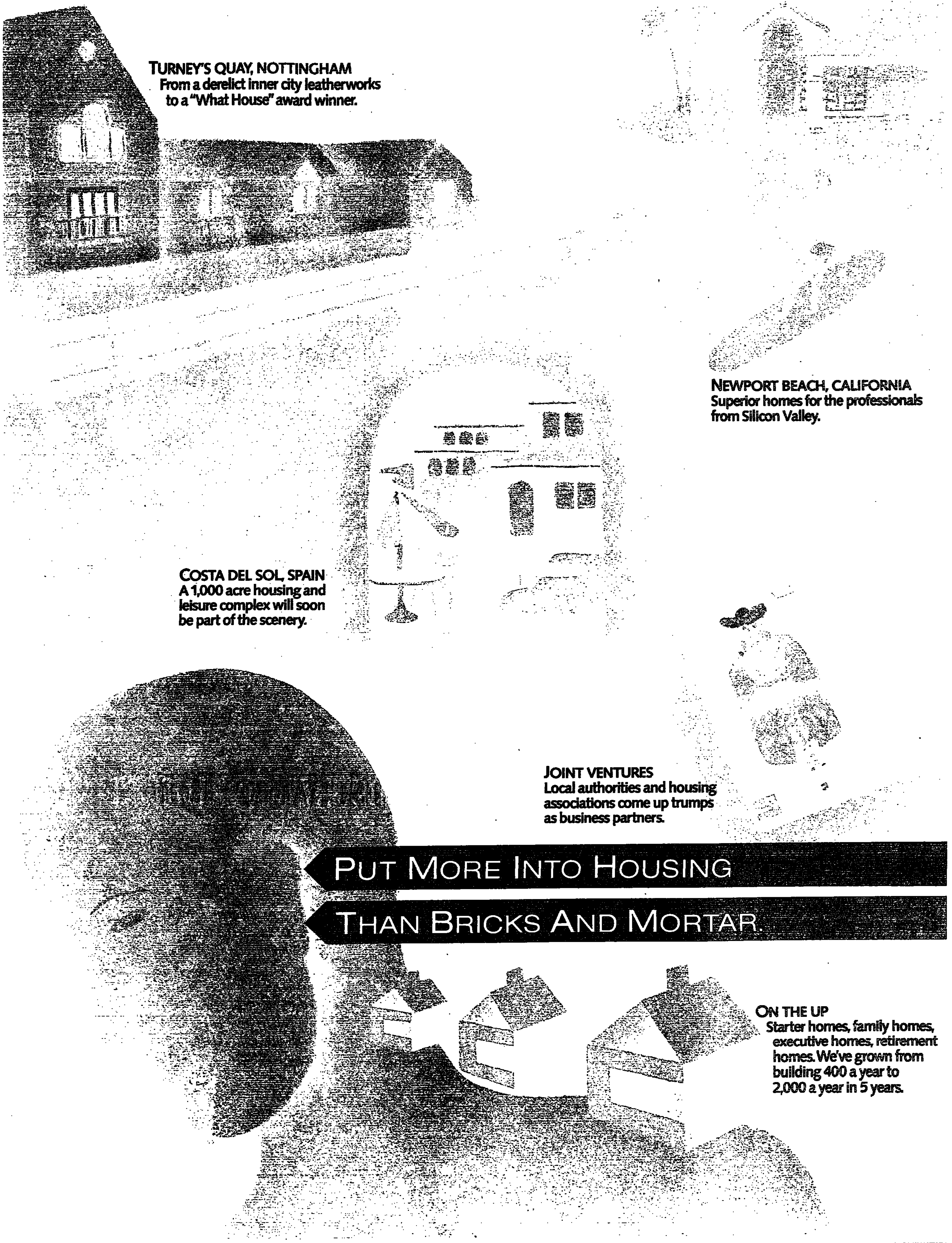
Some of the items have already had their tariffs cut by administrative fiat. Such reductions, however, are valid for only one year, after which they must be endorsed by Parliament or else revert to their original levels.

The reductions will bring Taiwan's average tariff rates down from 20 to 12 per cent, making it much easier for foreign suppliers to market their goods. They may also serve to lessen tensions with Taiwan's major trading partners in the US and Europe, with whom Taiwan has traditionally run up multi-billion-dollar trade surpluses each year.

WORLD ECONOMIC INDICATORS
INDUSTRIAL PRODUCTION
(1980=100)

					% change over previous year
	Sept '87	Aug. '87	July '87	Sept '86	
US	120.8	120.6	120.2	115.0	+5.0
	Aug. '87	July '87	June '87	Aug. '86	
United Kingdom	115.3	114.4	111.9	111.3	+3.6
W.Germany	108.2	103.4	104.4	105.8	+2.3
	July '87	June '87	May '87	July '86	
Italy	101.7	101.2	104.5	99.0	+2.7
Netherlands	107.3	105.6	106.5	107.5	-0.2
Japan	126.0	125.3	120.6	121.3	+3.9

Source: (except US) Eurostat


TURNEY'S QUAY, NOTTINGHAM
From a derelict inner city leatherworks to a "What House" award winner.
NEWPORT BEACH, CALIFORNIA
Superior homes for the professionals from Silicon Valley.
COSTA DEL SOL, SPAIN
A 1,000 acre housing and leisure complex will soon be part of the scenery.
JOINT VENTURES
Local authorities and housing associations come up trumps as business partners.
PUT MORE INTO HOUSING
THAN BRICKS AND MORTAR.
ON THE UP
Starter homes, family homes, executive homes, retirement homes. We've grown from building 400 a year to 2,000 a year in 5 years.

CBI warns companies over pay

By Philip Bassett, Labour Editor

COMPANIES STILL face major challenges on pay and performance despite the current improvements in the UK economy, according to a presentation on pay now being put to member companies by the Confederation of British Industry (CBI), the country's employers' organisation.

In its annual internal exhortation on pay to UK manufacturing companies, the CBI acknowledges that with the containing of inflation, an annual rate of growth which compares favourably with overseas competitors and a generally more buoyant economy, Britain would have done better still if its levels of pay and labour cost increases had ben more in line with competitors.

The CBI says that while settlements have been spread over the past 12 months, average earnings increases have remained high - nearly doubling since 1980, and rising far faster than those of Britain's economic competitors.

The CBI forecasts that real incomes will continue to rise over the coming year. It says there are "still plenty of challenges on pay and performance in the year ahead".

Manufacturing industry has to contain its labour costs, and the CBI says that "in the whole economy, we have to bring down the increase in unit labour costs by improving productivity, which has lagged behind the manufacturing sector, (or) by lower earnings increases, or some combination of the two."

Celltech expected to make big international placing

BY MARTIN DICKSON

CELLTECH, Britain's leading specialist bio-technology company, is expected this month to announce plans to raise tens of millions of pounds through an international share placing.

The proceeds will be used to fund the company's development from its origins in research to become a fully fledged bio-pharmaceuticals business - making it a drugs company specialising in biotechnology which not only devises new products but also manufactures them in bulk and markets them.

The placing represents a milestone for a business which was started only seven years ago as a belated British response to the new biotechnology industry that sprang up in the US in the 1970s.

Celltech does not have a stock market quotation. Its major shareholder is British & Commonwealth Holdings, the financial services and industrial holding company, with 36.5 per cent of its equity.

Other investors include a broad range of City of London institutions, with large stakes held by Prudential Assurance, Midland Montagu and Gartmore Investment Management. The company's staff accounts for 3.5 per cent of the shares.

Existing investors will have an opportunity to take up shares from the issue but the company is also expected to place shares with new investors in the UK, Europe, Japan and the US.

Its lead adviser will be Baring Brothers, the company's merchant bank, while brokers to the issue will be Wood Mackenzie. The US adviser will be Hambrecht & Quist, the venture capital and investment banking group.

Such a large private placing suggests that the company is unlikely to float on the London Stock Market for some time, although it is expected to go for a quotation eventually, in part to give shareholders an easy means of trading their investment.

Last August Biotechnology Investments, the N.M. Rothschild trust specialising in biotechnology and health care shares, sold its 9.4 per cent investment in Celltech for £19.2m . At that price, the whole company would be worth about £100m.

Celltech was set up in 1980, with £12m of funds from City of London and government sources. It specialises in work on monoclonal antibodies, a versatile new type of pharmaceutical ingredient.

The company is the world's leading bulk manufacturer of monoclonals, which it makes under contract for use by drug companies. But with the help of the funds from the placing, Celltech aims over the longer term to use its production facilities to make its own drugs in bulk.

It already has significant ties with both the US and Japan through cooperation agreements with pharmaceutical companies. One important joint project involves cancer research with American Cyanamid, the US chemicals and drugs company.

Management, Page 16

Minister studies novel plan for privatisation of electricity

BY MAX WILKINSON, RESOURCES EDITOR

MR CECIL PARKINSON, the Industry Secretary, is considering a novel "time bomb" scheme for privatising the Central Electricity Generating Board (CEGB). The aim would be to sell the organisation as it stands, but with a provision to break it up within perhaps five to seven years.

The idea is being explored by ministers as a possible compromise between Mrs Thatcher's insistence that electricity must be privatised in this Parliament and the wish to introduce a more competetive structure into the industry when it is sold.

Ministers have been advised that is would be difficult to break the CEGB into a number of competing generating companies and to sell them within the time set by the Cabinet.

The main obstacle is that it would take a long time to develop proposals for breaking up the electricity supply industry because it is so large and so complex - with £37bn of assets (at replacement cost). Even if this planning stage could be completed in time for legislation to be drafted next year, the City of London doubts whether five or 10 separate electricity companies could be floated within a year to 18 months of each other.

Since some of these companies would probably have to be sold to existing private sector groups, the Government would not be able to achieve the same political impact as it did with the recent appeals to "popular capitalism" for the British Telecom, British Gas and BP share offerings.

So ministers are studying ways in which the CEGB might be required to make proposals for its own disintegration by demergers after it had moved into the private sector.

Although the Department of Energy is by no means ready to make firm proposals for electricity privatisation, some ministers believe the "time bomb" solution would be attractive for shareholders, because of the possibility of take-overs and realignment of shareholdings later.

Although a privatisation offer which included proposals for an eventual break up of the CEGB might be complex, some ministers believe this might be a price worth paying for introducing competition.

It might also make it easier to regulate the industry because it is generally agreed that the regulator must have stronger powers if he is dealing with a monopolist.

Mr Parkinson and his officials have asked for extra time to complete their plans because of the complications of the industry, and uncertainties about how nuclear power would fit into a privatised structure.

It now seems that a final decision may not tbe put to the Cabinet before February or March, although Mr Parkinson will need to have a fairly good idea by the New Year of what he is going to suggest.

Banks move to restore order

By Our Financial Staff

AFTER THE suspension of the interbank clearing systems on Friday because of the violent weather, the Bank of England and the four UK clearing banks yesterday agreed to work on the basis of the following general principles to help provide an orderly market today. The banks agreed:

- To extend interest rates on loans, deposits and certificates of deposit maturing on October 16 to October 19;
- To employ 9¾ per cent as an appropriate rate in the absence of a market rate where one needs to be determined;
- That bills maturing on October 16 will be paid on October 19 and Treasury bills due to be taken up on October 16 will be paid for on October 19.

BT productivity among lowest in West, study says

BY TERRY DODSWORTH, INDUSTRIAL EDITOR

PRODUCTIVITY LEVELS at British Telecom are among the lowest recorded among Western telephone service operators, while capital investment by the UK group has lagged behind that of most other international telecommunications companies in recent years.

Those are two conclusions emerging from figures in an Organisation for Economic Co-operation and Development report on telecommunications policy among the leading Western industrial nations.

The study shows that BT has a long way to go in reaching its stated target of becoming a 'top Telco' - one of the leading international telecommunications companies - within the next five years.

In particular, the figures suggest that BT, up to 1985 ,when the study breaks off, had unusually high operational costs. It also lagged well behind most other companies in the efficiency of its work force.

The report warns that it is not easy to give a precise comparison of the performance of telephone service providers because of different accounting and subcontracting practices, as well as exchange-rate movements. But it says the figures are useful in showing broad differences and relative shifts in performance over time.

On that basis, the UK spent more in 1985 on running each of its lines than any other country except the US. Its costs, estimated in US dollars at 1980 price and exchange rates, amounted to $427 per main line, against less than $100 a line in Japan and Spain.

In France, for example, spending of $559 a line in 1974 was cut to $273 in 1985, while in West Germany, it moved from $475 a line to $158 - less than half the British total - two years ago. The figures do not give an estimate for the change in UK costs over the 11 years to 1985, but they show that in most other countries, operational expenditure per line dropped sharply.

The statistics also indicate that the UK has been slow to increase the number of lines it runs per employee. Improvements on this score have been achieved elsewhere either by expanding the network or by trimming the workforce, or a combination of both.

While the UK has made some progress, increasing the number of main lines per employee from 52 in 1975 to 89 in 1985, other countries have moved much faster. In France, for example, the number of lines in use rose from the same base per employee in 1974 to 138 in 1985, while in the US they jumped from 89 to 169.

To some extent, the UK performance is explained by its investment record. On the basis of expenditure in two periods, from 1975 to 1977 and from 1983 to 1985, the OECD figures suggest that UK investment was among the lowest in the 13 countries in the study.

Tax 'aid' for BP share sales overseas

By Tom Lynch

OVERSEAS BUYERS of BP shares will be "subsidised" by the British taxpayer to the tune of up to £50m, says Mr Gordon Brown, the shadow Chief Secretary to the Treasury.

He said foreigners and British tax exiles would be entitled to the same benefits as domestic buyers - a discount of £210 on every 1,000 shares, a loyalty bonus worth £330 and entitlement to full dividends from February 1988.

In a letter to Mr Nigel Lawson, the Chancellor of the Exchequer, Mr Brown says: "Tens of thousands of foreigners and tax exiles will now be in a position to get a preferential allocation of shares at the cheaper fixed price available to individual British investors.

"The British taxpayer will be subsidising the already wealthy share-owners in countries like Liechtenstein to the extent of some £540 for every 1,000 shares applied for."

Mr Brown predicted that the foreign stake in BP would grow from 7 per cent to about 20 per cent.

Special report on BP, Pages 16-18

High house prices main obstacle to job moves, report finds

DAVID BRINDLE

MORE THAN half the managerial and professional staff who decline to move home for work purposes blame high housing costs, a survey of more than 6,000 employees has shown.

Almost 40 per cent of those surveyed said they would be unwilling to move to London, compared with one in three who ruled out Scotland (usually specifying the Glasgow area) and one in five who excluded the north-west (usually Merseyside) or Northern Ireland.

The survey, due to be published tomorrow as part of a report on labour mobility, was carried out by the Institute of Manpower Studies and financed by seven employers in the private and public sectors. The sponsors are not being named.

The report concludes that employers are failing adequately to address difficulties of staff mobility, typically reacting in a "knee-jerk" way by improving cash relocation incentives.

"Faced with a mobility problem, such as house price differentials, firms tend to look sideways at other firms for an answer, rather than evaluating their own practices and talking with their own mobile and potentially mobile employees," the IMS says.

The report is based on interviews with 70 managers responsible for labour mobility, the survey of 6,207 managerial and professional employees of five of the sponsoring organisations, and a comparison study of 25 other employers.

Of the survey respondents, 41.6 per cent had moved home for a job-related reason during the previous 10 years. However, another 30.1 per cent had decided against a move during the same period and 25.6 per cent said they would refuse to move for their next promotion.

The most common reason for turning down a move was unwillingness to leave family or friends (cited by 63.9 per cent of those who had decided not to relocate) but 50.8 per cent cited the high cost of housing in the destination area.

The report makes 10 recommendations on ways to encourage and facilitate mobility, starting with the establishment of clear managerial responsibility for it.

Relocating Managers and Professional Staff. IMS Report 139. IMS, Mantell Building, University of Sussex, Falmer, Brighton BN1 9RF. £75 or £50 to IMS subscribers.

Support urged for electronics industry

BY OUR INDUSTRIAL EDITOR

BETWEEN 1980 and last year electronic-component imports rose from 34 per cent of the UK market to more than 50 per cent while the trade deficit in these products increased eightfold from £77m to £604m, says a report by a sub-committee of the National Economic Development Council.

The committee combines its study with a plea for continued government support for the sector. It says investment in integrated circuits is important because they are the key to maintaining UK equipment-makers' international competitiveness.

The report is timely for the electronics industry because of Whitehall talks, on government funding for technology research, concerning:

- Decisions on an industry-government research effort to replace the Alvey programme, the five-year scheme to bring companies and universities together on projects to improve basic electronics technology.
- Britain's position in integrated circuit technology, particularly chips made from silicon, the most widely used material for semiconductors.

The report emphasises the role UK companies must play in the industry's development but emphasises that government commitment is important to:

- Help semiconductor-makers play a part in joint European research initiatives.
- Give financial aid to more process-based projects.

The scheme proposed last year to replace the Alvey programme "would play a critical role in future activities."

The committee underlines the UK semiconductor-sector profitability record but says the industry will need massive investment to develop its technology base and that a sustained programme of research and development is essential.

It says the industry has played its part by developing a specialised strategy which is profitable, and has tried to improve understanding in the City. "It should be recognised that Government also has an important part to play."

It makes little reference to the industry's trade deficit beyond noting that the deterioration in the figures has been a cause for concern.

Bridget Bloom examines the extent to which farms were damaged by Friday's storm

After the despair, the fear for the ecology

THE HURRICANE winds that carved their destructive way through the English countryside from the Kent and Sussex coast northwards into Norfolk has spelt a weekend of despair for many farmers.

One of them, Mr Tony Taylor, manager of a 1,300-acre farm in the wooded hills of south-west Surrey, said yesterday: "It will be months, not days or even weeks, before we can properly assess the damage."

That part of Surrey, like other wooded rather hilly areas in the south and south-east, has been severely hit. Of the 1,300 acres farmed, 300 are arable and grassland and 1,000 are mixed woodland. They stretch from Hambledon in the west through Hascombe Hill and to Bramley just south of Guildford in the east.

Fences are down, grazing sheep have escaped and winter barley on the lower land is flooded. Much of the barley has been swept down the hillside by the torrential, near horizontal, rain that accompanied Friday morning's storm.

Much of the 1,000 acres of woodland is devastated: 30-year-old larch plantations are flattened with huge trunks criss-crossing each other in a dense jungle that has pulled down and buried electricity pylons.

Ancient deciduous woods full of beeches and sweet chestnuts have been particularly seriously damaged. Mr John Burgess, who has a 20-acre slice of sandy hillside, once heavily wooded, edging Mr Taylor's farm, has lost at least 150 trees. Locals say some of the finest beeches and oak in Surrey are corpses on Hascombe Hill.

Kew suffered tree loss but farmers have other worries too

A straw poll of farmers from Sussex, Surrey, Hampshire, Suffolk and Norfolk yesterday highlighted the capricious nature of the storm. To some it was an annoyance; to others, particularly those with substantial woodland, it was a near disaster.

Most affected farmers have spent the weekend coping with the immediate problem of access to both farm and house and making stock and electricity supplies secure. Assessing the real extent of the damage and its costs will come later.

For some farmers, the damage was mitigated either because they had their own emergency power supplies or because the harvest was in.

Most dairy farmers, for example, have emergency generators. While milking is much slower, the real problem after the storm has been getting the milk away, particularly from farms down lanes or drives now blocked by trees. Many farmers with cattle, pigs or poultry have suffered either because buildings have been damaged or because of the failure of electricity or water supplies, as in parts of Hampshire and of Kent.

For farmers with arable land, damage to field crops has been relatively slight. Some farmers have seen their standing forage maize flattened. Wheat and barley, however, have been harvested, and sugar beet, which is low in the ground, has been largely unaffected.

The main difficulty for East Anglian farmers, apart from the destruction of trees and buildings, has been the torrential rain that the storm brought in its wake.

One farm and horticultural enterprise in south Norfolk had only just drained 150 acres of arable land which were under water as a result of August's heavy rains. Now 100 acres are flooded again. In a neighbouring Norfolk farm, a six-acre plantation of poplars has only three standing.

The consensus seems to be that the sodden ground, together with the wet summer which encouraged the development of root deaths, has made many trees an easier target than they might have been. They also went more readily because the sap was still high, which meant that the trees bent less easily with the wind. Thirdly, the full leaf cover of most trees gave the wind its leverage.

Many farmers in such areas as south-west Surrey and Kent were still without electricity last night and looked like being so for several days. Beyond those immediate problems, however, were other concerns.

One was that the huge extent of the damage, albeit in specific areas, was as yet unappreciated by the world at large.

For many farmers, and for small landowners such as Mr Burgess, the physical task of clearing up is simply too much. It may be early days, but there is no sign of help - beyond that of minimal road clearing - from local or central government, even though many of the affected areas have been declared as having outstanding natural beauty and are favoured by walkers and riders.

Also of concern is the longer-term effects of the storm on the landscape. Much has been heard of the devastation to Kew Gardens or St James's Park, for example. But for the landscape, it is not just the absence of mature trees which is worrying. (Some are already saying the effect could be as bad as Dutch elm disease.)

What is most worrying farmers is the effect of the storms on the ecology of areas which depended on tree cover for their stability as well as their beauty.

Co-op Wholesale Society profits rise slightly

BY DAVID CHURCHILL

THE Co-operative Wholesale Society, the manufacturing and wholesaling arm of the Co-op retail movement in the UK, produced trading profits of £4.9m in the first six months of this year, against £4.8m it made in the first six months of 1986.

Turnover was unchanged at £1.1bn.

The figures were announced to the CWS's members at meetings held at the weekend in London, Glasgow, and Manchester.

Members were told sales growth was affected by the disposal of meat freezing factories in New Zealand and the sale of other interests in the UK.

"These disposals are in line with the policy of concentrating CWS resources on mainstream activities, particularly the increased retail interests and the support of the Co-op retail societies," the CWS said.

A big re-organisation of the CWS took place in autumn last year, with trading activities being concentrated into two divisions. These were the retail and services division and the production and property division.

The CWS also disclosed that the Co-operative Bank and the Co-operative Insurance Society - two wholly owned subsidiaries of the CWS - were developing a "closer relationship."

This has taken the form of an increasing number of insurance policies from CIS being sold to the bank's customers, while insurance customers are offered a £10 discount if they open a Co-op Bank account.

Hotel closures blamed on shortfall in US tourists

BY DAVID CHURCHILL, LEISURE INDUSTRIES CORRESPONDENT

AN UNPRECEDENTED number of hotels closed or changed ownership last year because fewer US tourists came to Britain, the Good Hotel Guide, published today, says. The guide is written by Mr Hilary Rubinstein and published jointly by the Consumers Association and Hodder & Stoughton.

It says hotels that relied heavily on their US trade faced onerous losses. There was a sharp drop in numbers of US tourists to the UK and to elsewhere in Europe last year in the wake of the US bombing raid on Libya and of the Chernobyl accident. However, the market recovered strongly towards the year's end and recovery has continued.

The guide has a higher turnover of entries than ever before, because of difficulties facing the hotel industry: about 236 hotels in last year's guide have been dropped, replaced by 184 newcomers.

The author says: "Hotels at the upper end of the tariff scale are still worryingly dependent on a steady infusion of dollar income. A recession like that of 1986 could happen again for one of many unpredictable reasons."

He advises the industry "to strive to give better value for money and by so doing seek to attract more visitors from the 'home' counties."

His guide covers 1,100 hotels in 22 countries.

Good Hotel Guide; Consumers Association, PO Box 44, Hertford, SG14 1SH; £10.95.

Every year, its sales have increased: from fewer than 3 million bottles in 1976 to more than 77 million in 1986.

And it has not only remained brand-leader but has taken a bigger share of the mineral water market.

Undoubtedly, the advertising has played some small part.

LEO BURNETT
ADVERTISING

Jeff Fergus, Managing Director, Leo Burnett, 48 St. Martin's Lane, London WC2N 4EJ. Telephone: 01-836 2424

UK NEWS

CBI/FT DISTRIBUTIVE TRADES SURVEY

Retail sales growth disappoints

BY RALPH ATKINS

HIGH STREET sales growth improved in September after a disappointing performance in the previous month, but the increase was not as great as retailers predicted.

The Confederation of British Industry/Financial Times survey of distributive trades, published today shows 56 per cent of the 294 retailers questioned reported an increase in sales volume compared with September 1986 while 14 per cent reported a decline.

A stronger performance is forecast for October but the survey has recently shown a tendency to overestimate future sales growth. If September's results are included, retailers expectations have been frustrated in seven out of nine months this year.

The latest results follow official figures for retail sales volumes which suggest that Britain's long-running surge in high street sales is continuing into the Autumn, although probably at a slower growth rate. Figures published by the Department of Trade and Industry showed an increase of nearly 1 per cent in retail sales in August.

Mr Nigel Whittaker, chairman of the survey panel, said a rise in sales had been predicted for September as better weather brought people out to the shops. "Sales did not increase as much as had been anticipated, but trade was still strong," he said.

For October the survey shows a balance expecting an increase in sales volumes compared with the same month last year, minus those expecting a fall, was +55 per cent. This compares with a balance of +52 per cent predicting a rise in September and +60 per cent in August.

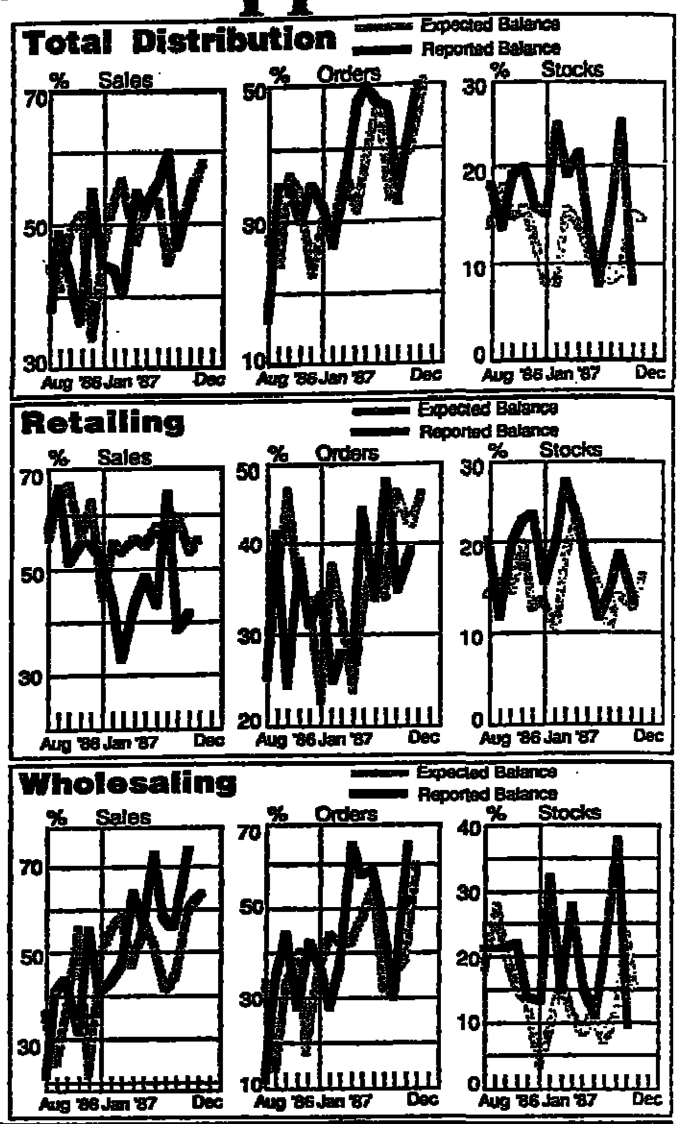
Stores selling durable household goods, including freezers, cookers, hi-fi equipment and television sets, were most optimistic with 84 per cent of those questioned expecting sales to be higher in October than the same month a year ago. Furniture, carpet and household textile stores also expected to do well.

For wholesalers, sales in September comfortably exceeded expectations. Out of 186 wholesalers questioned, 80 per cent reported an increase compared with September last year and 7 per cent said sales had declined.

A balance of +51 per cent of wholesalers reported sales were good for the time of year - the highest balance since the survey began four years ago.

Further growth is predicted by wholesalers in October, although at a slightly slower rate. Wholesalers of food and drink, and durable household goods were the most optimistic about both September and October.

Motor traders said sales levels in September were slightly higher than expected. A balance of +28 per cent reported a rise compared with September 1986. Further increases were predicted for October but companies selling parts and accessories were more optimistic than vehicle traders.



Nuclear waste clash expected

BY MAURICE SAMUELSON

BRITAIN WILL be among a number of developed countries that will this week resist international moves to outlaw offshore dumping of nuclear waste.

The clash will occur at a meeting in London of experts from several countries belonging to the 62-member London Dumping Convention. The meeting will be attended by Greenpeace, the environmentalist group that last week has recently been involved in attempts to prevent dumping of toxic waste from the Netherlands in the North Sea.

Although Britain has voluntarily refrained since 1982 from dumping low-level nuclear waste at sea, it claims there is insufficient scientific reason to abandon such an option.

It is estimated that, since 1983, Britain has been storing at least 10,000 cu metres of radioactive waste at Harwell and other onshore sites that would have been deposited at sea had the Government wished to defy international and domestic opinion. The waste is mainly from hospitals, research establishments, the pharmaceutical industry, and nuclear power stations.

At this week's meeting, scientists will start processing the results of questionnaires distributed to member countries on policies, regulations and public attitudes on a wide range of civilian nuclear issues.

The UK's current policy is that while international views differ, the UK shares the opinion of many countries that a safe disposal option should remain available.

Dowty joins GE in fan design project

BY LYNTON McLAIN

DOWTY ROTOL, part of the aerospace division of the Dowty group, is to collaborate with the US General Electric company on the design and production of fan blades for the revolutionary GE unducted fan engine.

An official joint announcement, confirming the contract, is expected early this week.

The Dowty company, based in Cheltenham, Gloucestershire, already makes conventional propeller blades and has experience of making advanced blades from composite materials. That technology may be used by General Electric for production models of the new engine.

The engines have potentially much improved fuel economy compared with current turbofan engines and are expected to be used on the next generation of medium-size civil airliners. Designs are being considered, by Boeing and McDonnell Douglas.

Fresh fall in National Savings

By Hugo Dixon

NATIONAL SAVINGS showed a net cash outflow of £57.5m in September - the second successive month during which it has failed to attract more funds from small investors than have been withdrawn from its accounts.

The figure was marginally better than August's, when National Savings experienced a net outflow of £61.2m.

However, it reinforces the pattern of recent months, in which National Savings has been offering lower rates than building societies to small investors.

Fixed-interest certificates and index-linked certificates continued to bear the brunt of the withdrawal of funds, experiencing net cash outflows of £116.7m and £44.8m respectively.

UK NEWS

Paymasters must call a more strategic tune

Philip Bassett on the CBI pay trends report that says employers need to deploy more sophisticated tactics

COMPANIES SHOULD pursue a strategic approach to pay, the Confederation of British Industry says in its annual presentation to employers on current pay trends in the UK at the start of the annual wage round.

In addition to emphasising the need to reduce present increases in average earnings, the CBI's internal pay presentation, Perform and Prosper, now being made to companies by CBI officials nationally and regionally, contains a wealth of survey and other previously unavailable detail about pay as employers see it.

CBI figures show that 25 per cent of companies look at their pay reviews as part of their annual corporate or financial plans and 47 per cent consider them several months in advance of the settlement date. The CBI says that still leaves a "significant number" for whom forward planning on pay is apparently not the norm.

The CBI suggests that for pay to take a positive role in recruiting, retaining and motivating staff, a number of broad strategic principles, including planning and control, should be put into effect.

Skill shortages are affecting almost one in five manufacturing companies, according to CBI figures - much higher in some sectors, such as electronic goods, which is suffering a 70 per cent skilled labour shortfall.

Across the economy, 41 per cent of companies are worried about retaining employees because of the difficulty in replacing them, 39 per cent found the quality of job applicants unsatisfactory and 22 per cent reported persistent skill shortages.

But the CBI warns strongly against across-the-board pay increases to try to rectify the matter, suggesting instead the proper management of differentials (although CBI survey work says that only one in three employers sees scope for that) and making selective pay adjustments (although CBI figures show that this would provoke considerable opposition from other employees).

To help, the CBI suggests one-off bonuses and revision of pay structures and longer-term solutions, not relying on "simply throwing pay-bill money at skill shortages" - in particular companies developing proper training programmes.

The CBI emphasises the increasing importance of linking pay with performance. In manufacturing, CBI findings show that 24 per cent of companies operate one-off bonuses, 17 per cent tailor payments to company or group performance and 16 per cent operate profit-sharing.

In the service sector, 85 per cent of companies have adopted an individual or group-based pay and performance system, with 51 per cent making merit payments, 34 per cent paying incremental salaries and 27 per cent fixed bonuses.

Among the 63 per cent of service companies operating a company performance-based system, 28 per cent have employee share ownership schemes, and 18 per cent have company-wide bonuses and profit-sharing.

Emphasising the value of good communications on pay, the CBI sees as a good sign its own poll evidence which shows that 56 per cent of employees thought improvements to performance and profits should be the main consideration in deciding pay, compared with 38 per cent listing the cost of living and 6 per cent comparability factors.

The same survey shows that trade union members are now much less ready to take industrial action - as many as 55 per cent were less likely to do so now than five years ago, with only 16 per cent more likely to do so.

Talking about interdependence, the CBI says "no firm is an island". It insists that while individual companies will inevitably take individual approaches to pay, those approaches would be bound to have repercussions on other businesses, which would in turn rebound on them.

The CBI's document identifies a "domino effect", with half the employers surveyed reporting that they try to keep level with the general rate of other companies' pay awards, and only a fifth saying it did not influence their thinking.

Vauxhall wins another large car order

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

VAUXHALL, the General Motors subsidiary, has won another large order for vehicles from a company that has decided to concentrate on providing employees with only one make of car and changing its cars and vans more frequently.

Electronic Rentals, the television and video rental organisation, is to take 3,350 cars and vans from Vauxhall. Deliveries will begin in January.

Vauxhall said the vehicles ordered have a showroom value of £27m, but that figure bears little resemblance to what Electronic Rentals will actually pay.

In June, Vauxhall won a two-year order for 20,000 cars from Thorn EMI, which was claimed to be the biggest single car order placed in the UK.

Electronic Rentals, like Thorn EMI, said it would make considerable savings from the change in company vehicle buying policy.

It has ordered 2,000 Vauxhall Astras, 500 Cavaliers, 350 Astra vans, all built in Britain, and 500 vehicles produced on the Continent.

French bank to buy 75% of Ark Securities

BY HUGO DIXON

BANQUE NATIONALE de Paris, the large French bank, is to buy a 75 per cent stake in Ark Securities, a London securities firm, valuing the firm at between £15m and £20m.

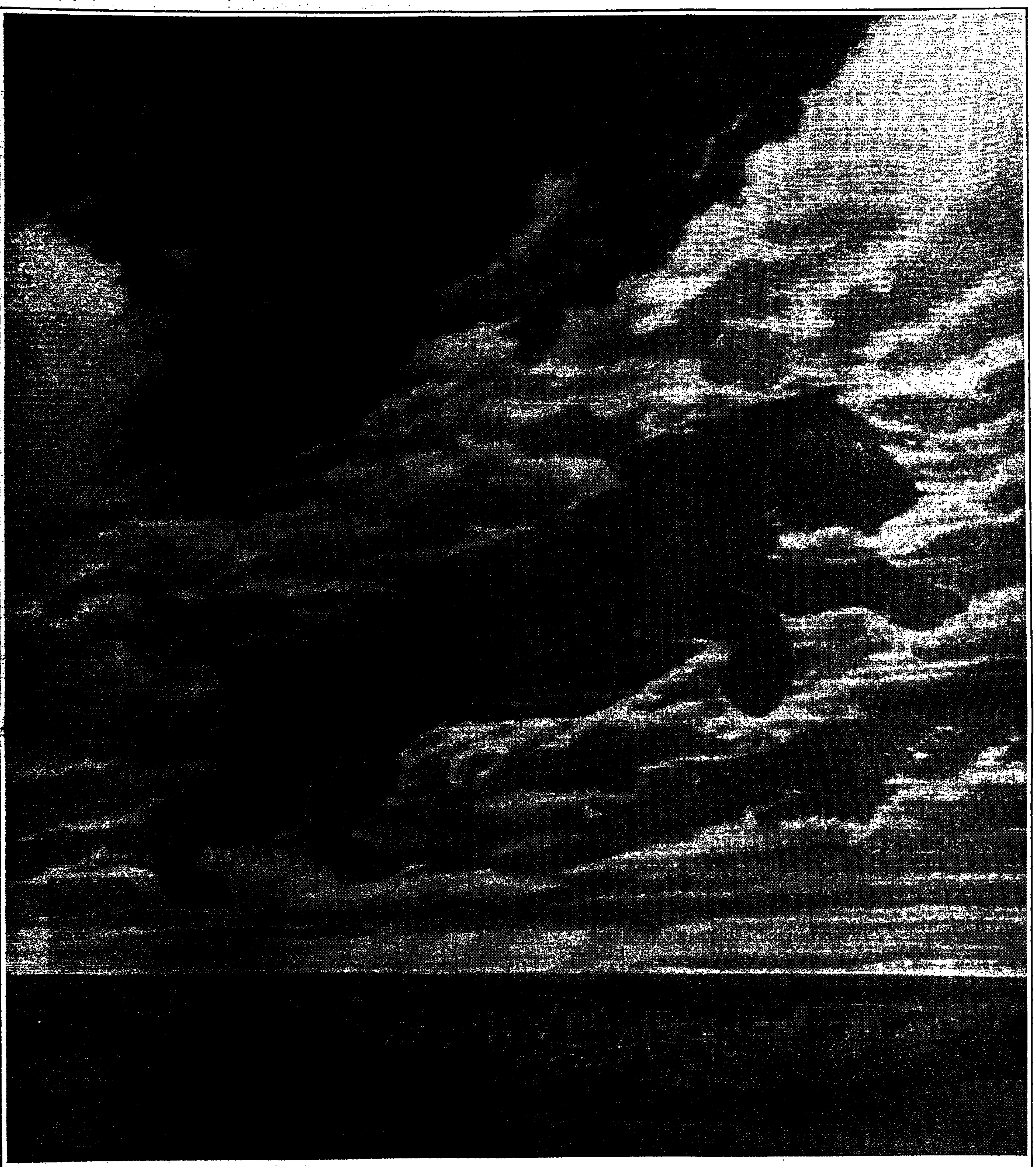
Ark was set up last year by former employees of Quilter Goodison, a stockbroker. Since then it has had an agency agreement with BNP under which the bank takes a share of Ark's broking commissions. Ark specialises in European equities.

The decision to sell a majority stake to the bank was designed to ensure that Ark had sufficient financial backing, Mr Mark Hawtin of Ark said yesterday. The bank would be buying existing shares but there would also be a rights issue soon, to raise between £500,000 and £1m in new capital, and the issue of subordinated debt.

Extra capital was needed to back Ark's growing broking business and its application for membership of the London Stock Exchange, Mr Hawtin said. Ark, once it had joined the exchange, would consider whether to move into market-making in addition to agency business.

Ark will keep its name and four of its employees will be directors; the bank will supply the other six directors.

This is the bank's latest move into the securities business. Recently it agreed to take a minority stake in du Bouzet, a French broker, and it has a majority stake in ABS White, an Australian broker. It has also applied for a securities licence in Tokyo.



MANAGEMENT

Celltech

When two cultures are fused in a common purpose

Martin Dickson assesses the efforts of a key UK biotechnology company to sustain a strong research base while developing as a fully-fledged pharmaceuticals manufacturer

Gerard Fairtlough: important to "bring in management beneath you which agrees with the culture"

IT WAS THE business opportunity of a lifetime, but it also had the potential to turn into a management nightmare.

When Celltech was born seven years ago as a small, belated British rival to the new biotechnology industry which had sprung up in the 1970s in California, it began life with one great advantage - an exclusive cooperation agreement with the Medical Research Council, one of the world's most fertile sources of ideas in this field.

But Gerard Fairtlough, the main architect of the company and its chief executive from the beginning, also faced an extremely delicate, probably unique management task as he set about his long term goal of turning an essentially reseach-based organisation into a fully fledged pharmaceutical company.

Could he create the kind of culture and strategic plan which would allow a business at the very frontiers of science to capitalise on its academic ties without becoming too "Ivory Towery," insufficiently responsive to the imperatives of the market-place ?

And could he create the kind of working environment which would attract high quality staff, from a background of both research and the pharmaceuticals industry, to this unknown quantity with offices in the distinctly unglamourous environs of the Slough trading estate west of London on the M4 motorway?

How well he has succeeded will be underlined this month when Celltech is expected to announce a major milestone in its progress to becoming a bio-pharmaceuticals business - in other words, a pharmaceuticals company specialising in the biotechnology area which not only researches its own products but also makes and markets them. To fund this development, the unquoted company is to raise large amounts of capital through a private international placing of its shares

The issue seems likely to go well, for Celltech has established itself as Europe's leading bio-technnology company and gained a strong City following - no mean feat in a sector where too many extravagent, unfulfilled claims have made investors wary.

"It is an extremely well-managed company," says analyst Ian White of Greenwell Montagu. "They have always delivered what they said they would, and are not in the business of hyping themselves."

At a first glance, Celltech's financial results might not seem to justify such enthusiasm. In the financial year to September 1986 its sales, together with joint ventures, only totalled £11m and it made a loss on ordinary activities of £714,000.

However, analysts suggest that its figures are rather impressive for a biotechnology business so young. Results for the year to last month have yet to be released, but between 1985 and 1986 sales roughly doubled. Losses - inevitable in the early years of a start-up company of this kind - fell by 50 per cent and Celltech said earlier this year that it expected to become profitable on an ongoing basis in 1987.

It is not that common for biotechnology businesses to go into profit so soon, and the quality of Celltech's revenues is also quite rare: about 50 per cent comes from making and selling

> It is not that common for biotechnology businesses to go into profit so soon

its own products, whereas at this stage of existence many of its rivals are largely dependent on research contracts. "In this field," says one City analyst, "it is one thing to develop a product, and quite another to manufacture it."

None of this guarantees Celltech long term success. It is still a relatively small player in an industry dominated by American companies, with Genentech of California the undisputed leader, and has yet to show it can bring an important new drug through to production.

But the fact it has come this far this fast is remarkable, and due in considerable measure to Gerard Fairtlough. Aged 57, but looking a lot younger, he is a tall, slim man with a penetrating gaze, a fast and fluent style of speaking and an infectiously enthusiastic manner.

In 1978 he left a promising career in Shell, where he was managing director of the chemicals division - "many of my friend thought I was crazy" - to try to put into effect his theories about the correct medicine for Britain's industrial malaise. He joined the government-backed National Enterprise Board where one of his projects was a proposal to fund a specialist British bio-technology company.

His ideas happened to coincide with similar proposals from other parts of the establishment, including the Medical Research Council, which at the time was in ill-odour with the Government for its failure to patent a Nobel-prize winning biotechnology discovery of the mid-1970s - how to make monoclonal antibodies - which had been enthusiastically taken up by American and Japanese companies.

The upshot was the establishment of Celltech, which initially drew half its funding from City sources and half from the Government (though the latter sold its final 15 per cent to the private sector in 1986).

From the start of trading in November 1980, three broad management objectives dominated Fairtlough's thinking. One was to bridge successfully the culture gap, leading to mutual suspicion, that has traditionally existed between academia and British industry. The response of the academic world seems initially to have been distinctly mixed. "Not universally hostile" is Fairtlough's downbeat description.

But the company did have the great advantage of first rights over all biotechnology innovations emanating from the MRC and its world renowned Laboratory for Molecular Biology in Cambridge. There was also strong support from the MRC to ensure that this time cooperation really worked, though in 1983 the exclusive arrangement was amended after lobbying by other drug companies and Celltech now has the more normal relationship of first option rights in cetain defined areas of the Council's work.

The deal clearly worked well, both in terms of Celltech's subsequent rapid product development and the fact that several senior people from the Cambridge laboratory are now working for the company. It has also extended cooperation to a range of other medical and university institutions, while its board includes two influential members of the Royal Society and Sir Martin Wood, the founder of Oxford Instruments. Additionally, it has set up a science council consisting of leading professors who look at the company's projects before serious money is spent on them.

The company has also succeeded in wooing some key personnel from the pharmaceuticals industry: Norman Carey, the director of research and development, came from G.D. Searle, bringing with him John Birch, the director of development. David Gration, the chief operating officer, came to the company via Boots and Wyeth Laboratories, a subsidiary of American Home Products.

And from the start Fairtlough adopted a remarkably open style of management, in part designed to make staff feel they belonged at the new enterprise and in part from the belief that poor communication was dangerous to a business. For example, one possibly unique policy is that after every board meeting executive directors brief employees on what was discussed.

Such a policy might be regarded as folly in an industry where commercial secrecy is so vital - "some of the stuff the staff are carrying around is absolute dynamite,"says David Gration - but the management insists the system has never been abused. But while such openness may work now, when Celltech employs about 200 people, most of them graduates, can it be maintained as the business grows ? "Yes," insists Gration. "The important thing is to bring in management beneath you which agrees with the culture."

There is also a staff council, representing the views of the workforce, which has a significant input into major corporate decisions, including the decision to move forward as a bio-pharmaceuticals company.

Fairtlough's second objective was - and remains - to become a large drug producer over the long term. And his third goal, to get the company thinking and acting like a normal business rather than a research institute, was designed to pave the way for this.

"From day one," he says, "we had to be committed to being commercial. Psychologically, it was very important, and as the business has grown it has become more important financially." The result has been the company's strong emphasis from an early date on identifying markets and manufacturing products - and doing so reliably and at a price attractive to buyers

Much of its manufacturing is in the field of monoclonal antibodies - the area where its MRC links should give it a natural advantage . Antibodies are a huge family of proteins manufactured by the body as a defence against infection. Monoclonal ones have the ability to recognise specific molecules that give different cells an individual character. That power can be harnessed to purify natural drugs, to diagnose disease, identify blood groups and possibly to treat cancer by targeting antibodies to seek out and destroy cancer cells.

Celltech has become the world's leading manufacturer of monoclonal antibodies, which it produces in bulk in Slough and exports around the world to

> And from the start Fairtlough adopted a remarkably open style of management

drug companies to use in their own products. And in building up this position it adopted a novel approach. The antibodies were originally produced by "harvesting" tiny amounts cultured in mice. Celltech - helped by its MRC links - went for a bio-chemical engineering route, manufacturing the proteins in large metal fermenters.

While this has helped establish Celltech at the forefront of bulk manufacturing (though still only producing batches measured in grammes), it regards this contract work as of interest only in the medium-term, giving it useful income and experience until it can use the facilities for its own products.

To make maximum use of its skills,the company has also set up several collaborative agreements with large drug companies, including a project under which American Cyanamid has given it £5m for research into cancer treatment using monoclonals, with the US company obtaining rights to the commercial products resulting from the work.

It also has an important 50/50 joint venture with Boots, the UK pharmaceuticals manufacturing and retail chemists chain. Called Boots-Celltech Diagnostics, the venture was established to develop and market products based on monoclonals in the highly competitive field of medical diagnostics. This is thought to have built up sales of about £4m and has developed and marketed some 20 products - a very considerable achievement for a business just four years old. And analysts are extremely excited about one product in the pipeline - a very simple fertility test to help prevent or encourage pregnancy.

All this commercial experience will prove valuable as the group moves downstream into drug manufacturing.

The move to manufacturing requires a great deal more capital - hence the new round of fund-raising - but in turn would greatly increase the profitability of the business. Discoveries which Celltech now has to share at an early stage with a stronger commercial partner could be kept in-house while value was added to them. "We would take the early risk with our own money," says Fairtlough, "but the opportunities to benefit downstream would be that much greater." As for marketing, the aim is not to become a Glaxo, with a vast team of salesmen worldwide, but to pick up one or two clearly defined niche areas - such as intensive care units - and licence out into other key markets.

But Celltech is hardly alone in these ambitions, or the areas of therapy it has targeted. Will there be room in the market place both for start-up companies like it and the large drug groups which have, somewhat belatedly, started embracing bio-technology?

" Yes," insists Gration. "The opportunities are limitless," though he adds the rider that companies will have to be much more precise in targeting the niches to go for. "I think there is a parallel between this industry and electronics a few years ago," he goes on. "That exploded, and the same thing will happen here."

BUILDING CONTRACTS

£19m Glasgow hotel project

RUSH & TOMPKINS' Glasgow office has received more than £45m worth of projects, mainly in the commercial, industrial, leisure and retail areas, and much of it in joint venture development work.

The current flagship project is the 17-storey Glasgow Forum Hotel and Conference Centre, in Queen's Dock, due for structural completion in March 1988, and with fitting out to be completed by March 1989. The £19m project will provide Glasgow with a much needed 300-bedroom hotel and further conference facilities next door to the Scottish Exhibition Centre. The client is Echo Hotels, a joint venture between Rush & Tompkins, Forum Hotels International, the Scottish Development Agency and the Scottish Exhibition Conference Centre.

Several retail developments are also in progress. A design and construct contract in Dunfermline town centre where the existing premises are to be demolished, is a joint venture with Forth & Fife Co-op and Rush & Tompkins. In Glasgow, Rush & Tompkins and Sibec are redeveloping Mearns Cross shopping centre to form an upgraded regional shopping centre in a £16m contract due for completion in September 1988. The Asda superstore at Maryhill is being extended to offer an increase of 11,000 sq ft of sales area and a 750 sq ft increase in office accommodation together with alterations and refurbishments. Rush & Tompkins is due to complete the £800,000 contract for Associated Dairies in February.

Finally, Rush & Tompkins is about to start work on a £10m town centre retail development in Coatbridge - a joint venture with Lawfield Estates. The development, which is part of the Coatbridge project with the Scottish Development Agency, Monklands District Council and Strathclyde Regional Council, will provide retail space of 100,000 sq ft, together with 56 flats.

Dealing facilities for foreign bank

SIR ROBERT McALPINE MANAGEMENT CONTRACTORS has begun work on a £16m contract for Swiss Bank Corporation International for the fitting out of LEP House, a six-storey office block providing about 18,500 sq metres of office accommodation in St Paul's Vista in the City of London. Fitting out will include the installation of a substantial number of dealer desks together with extensive data and telecommunications cabling and associated services, the provision of conference rooms and a guest entertainment facility. A high standard of finish is specified throughout and the contract also covers the landscaping of the four atriums and entrance halls, carrying out duct work and connecting the heating and air conditioning system to the main plant. The work, scheduled for completion in October 1988, will be carried out in parallel with the final stages of the main construction contract for building the shell and core, awarded to Sir Robert McAlpine & Sons in August 1986.

Sir Robert McAlpine & Sons has won an £11m contract to build a mixed office, retail and residential development for Guardian Royal Exchange Assurance at Gloucester Green, Oxford. The development, designed to blend with the surrounding period buildings, comprises three main blocks; a six-storey air conditioned office block and two four-storey buildings providing retail units at ground level, 54 and 33 flats respectively on the three floors above and car parking facilities at basement level. The high standard of the development is reflected in its specification. Construction is of precast concrete floors supported by load bearing brickwork. Great use is then made of decorative facing brickwork with reconstituted stone coping and embellishments, double glazed aluminium and timber windows and double pitched or mansard slate roofs. Work includes the demolition of various existing buildings on site, a contiguous piled retaining wall, foundations and excavation for the basement car parks, construction of a market area with retail kiosks, an adjacent bus station and sundry ancillary buildings, all with landscaped surroundings. The project is due for completion in June 1989.

Coatbridge leisure development

An advanced leisure centre development has been awarded to NORWEST HOLST PROJECT SERVICES by Monklands District Council. Norwest Holst and architects Stephen Limbrick Associates have won the £7m design and construct development at Coatbridge, Scotland, beating several other shortlisted D & C packages entered by other construction companies.

The conceptual form is an enclosed landscape following the natural sloping topography of the site. The centre is bisected creating a frozen arctic climate on one side and tropical lagoon on the other each with its own contrasting effect on the landscape. The design creates a unified building internally and maximises the physical and visual closeness between the ice and water, minimising barriers between the two.

Physical closeness between spectators and users will be of prime importance allowing all to share visually if not physically the excitement of the experience. Everywhere in the complex activity will be heightened by a variety of lighting effects relating to music, features and mood.

Major features of the leisure pool include the Slalom Falls - a cascading artificial river interupted by a series of events throughout its length - and a feature volcano, housing a health suite inside and its own small relaxation area jutting out from the rockface over the pool below.

Giant images of water-based activity such as Olympic swimming, surfing or tropical seascapes can be projected onto the Tropical cyclorama enhancing the backdrop and introducing a dramatic influence on the atmosphere of the space.

In contrast, snow-covered rock formations, fir trees and an iceberg form the environment of the ice section. Skaters will be able to descend the Ice Glacier run to the Ice Plateau where they can pause, explore, enjoy the view or take refreshment in the Ice Cafe housed within the Iceberg. From there they will be able to continue down the largest clear area of ice, the ice lake, containing four curling rinks.

Roadworks for John Laing

A £13.4m contract for the last remaining bypass on the A55 dual-carriageway in north Wales has been awarded to JOHN LAING CONSTRUCTION. The 2.1 miles of road around Llanfairfechan will, when completed, mean that all the towns on the road are bypassed. The A55 is the main arterial link in north Wales, joining the motorway system in England to the Welsh coastal resorts as far as Bangor in the west to Anglesey. Work on the Llanfairfechan bypass is about to start and is expected to be completed by the end of 1989. Much of the A55 has been brought up to dual-carriageway standard as far as Conway and a crossing under the river is now being constructed in such a way as not to interfere with the famous castle which commands the town. Work is also in progress on pushing the road west towards Bangor. When the Llanfairfechan bypass has been completed the far end of the road should be no futher than an hour's drive from the motorway. The authorities in north Wales have been promoting themselves as being no futher than an hour's drive from the Manchester-Liverpool connurbation and, in particular, Manchester Airport.

The north east region of WIMPEY CONSTRUCTION UK has been awarded an £8.8m contract by William Morrison Supermarkets for a distribution centre on the Wakefield 41 Industrial Park in west Yorkshire. With an overall area of 39,500 sq metres the building, which includes a two-storey utility block, will be of steel frame construction with composite wall cladding and panel roofing. Due for completion in June 1988, the contract is the third Wimpey's north east region has been awarded by William Morrison, having previously completed superstores for the group at Rotherham and Bishops Auckland.

UK APPOINTMENTS

Bank of Scotland directors named

THE BANK OF SCOTLAND has appointed **Mr A M Rankin** and **Mr R P Reid** as directors of the bank. Mr Rankin is group chief executive of Scottish and Newcastle Breweries and a member of the CBI Scottish Council. Mr Reid is chairman and chief executive of Shell UK and a council member of the CBI.

*

Mr Iain Burns will join ABACO INVESTMENTS as group finance director from October 29. The appointment follows the move by Mr Rusty Ashman to British and Commonwealth as group finance director.

*

Following the acquisition of HILTON INTERNATIONAL by Ladbroke Group, **Mr John Jarvis**, a Ladbroke director and executive chairman of its hotels division, becomes chairman and chief executive of Hilton International, and **Mr Michael Hirst**, also a Ladbroke director and managing director of its hotels division, an executive director. Mr Helmut Hoermann, president and chief operating officer of Hilton International, will continue in this role.

Mr A R (Tony) Vines has joined the board of ARUNDELL HOUSE.

*

Mr Christopher McCann has been appointed a director of COUNTY NATWEST and COUNTY NATWEST VENTURES, its development and venture capital subsidiary. He was formerly senior vice president, Barclays Bank of New York.

*

J. SAINSBURY has made **Mr Ivor Hunt** departmental director, marketing services. Mr Hunt's appointment, says Sainsbury, recognises the increased significance of the department's role as the company continues to expand.

*

Mr Harold Harvey has joined the board of JOHN FOSTER as main board director responsible for production. Mr Harvey, previously an associate director of the Drummond Group, started his career in textiles on the shop floor and worked his way up through to senior management.

SYSTEMS INTEGRATORS, the US electronic publishing systems manufacturer, has made **Mr David Page** its director of European marketing. The appointment of Mr Page, who started his career as a newspaper compositor, is the result of SII's decision this year to establish a European company for its drive into the European publishing market.

*

Anna Harvey will join HARRODS in December as its creative director. Miss Harvey will be responsible for the presentation of the company's image and will act as social adviser on its events and special occasions.

*

Two additional non-executive directors have been appointed by ABBEY LIFE GROUP. They are **Mr Robin Baillie**, a non-executive director of Standard Chartered, London and Strathclyde Trust and Boustead and chairman of Burson-Marsteller Financial; and **Professor C John Constable**, a non-executive director of International Military Services and various companies within the Smiths Industries Group. From 1971 to 1985 he was at the Cranfield School of Management, latterly as director.

Mr John D Whorwood has been appointed group treasurer of LEGAL AND GENERAL GROUP. He was previously deputy treasurer of RTZ Corporation.

*

MINET GROUP SERVICES has appointed **Jacqueline Jones** its director of insurance market security.

*

The MICHAEL PETERS GROUP has appointed **Mr Glenn Tutssel** and **Mr Peter Sampson** directors.

*

Mr Barry Curnow has been appointed chairman of MSL GROUP INTERNATIONAL. He was chairman and chief executive of Hay Asia.

*

Mr Peter Brackenridge has been appointed an alternate director of BORTHWICKS.

*

Mr Christopher Emptage has become operations director at FARNELL ELECTRONIC COMPONENTS. **Mr Allan Daniel** has been appointed a director.

Computers in Business

The Financial Times proposes to publish this survey on 2 November 1987
Topics under discussion include:

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(b) Japan
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THE MONDAY PAGE

The odds against a soft landing

ANTHONY HARRIS

THE WORLD'S financial markets, led by Wall Street, have at last begun to take seriously a warning which has been on the files for nearly two years.

In December 1985, Dr Stephen Marris, who served as a senior economist at the Organisation for Economic Co-operation and Development in Paris for some 30 years, returned to private life and published a grim analysis of the dangers presented by the US trade and budget deficits. Unless there was a co-operative effort to get back to balance, he wrote, a collapse of the dollar would provoke a world-wide rise in interest rates which might push the world economy into a recession.

For a long time it seemed that these fears were unjustified. The dollar fell quite smoothly by some 40 per cent against the currencies of the strongest industrial economies until it was checked by the Louvre accord. It seemed that the dollar had achieved a soft landing after all.

Last week the new Chairman of the US Federal Reserve, Dr Alan Greenspan, made a speech supporting the cheery view. The real economy, he said, was responding powerfully to the exchange rate adjustment, and the effect on the nominal current account balance would appear in due course.

The markets fondly supposed that Dr Greenspan was giving advance notice of good trade figures. They turned out, as everyone knows, to be rather bad, and the disappointment set off last week's heavy market falls; but Dr Greenspan has stuck to *his unhappily timed message* - the trends are right, and better than he had expected.

A little earlier, though, Dr Marris published a brief update of his original warning, and did not soften it at all. Indeed, the US current account is actually a little worse than his forecasts implied. This is because there *has been no effective international* co-operation, and the US economy is still growing rather faster than those of the main surplus countries.

Meanwhile, private investors have been increasingly reluctant to buy US assets on a sufficient scale to finance the deficit, or have borrowed dollars to hedge their exchange rate risk. It has therefore been left to the central banks to supply the hard currencies which the US needs, thus feeding liquidity to the world markets.

Is the world on the brink of a recession caused by lack of co-operation?

It is their efforts to check this financial inflation which is now driving up interest rates, as Dr Marris had forecast. This could cause a Wall Street bear market, and so make it harder than ever to attract private investment flows. Result: still more *intervention*, and *still higher* interest rates to "sterilise" the money used to prop up the dollar.

A cure still demands co-operation, according to Dr Marris. If the US is left to deflate demand single-handed, it might start a downward spiral everywhere. Domestic demand in other countries must therefore be raised at least as fast as it is cut in the US - exactly the same message which the US Treasury Secretary, Mr James Baker, has been urging for many months.

They have not responded, and their counter-argument was strongly stated at the annual meeting of the US National Association of Business Economists this month. Their spokesman was the man who succeeded to Dr Marris's job at the OECD - Mr Masaru Yoshitomi, who now runs the Japanese economic planning agency.

The basic problem, he explained, is that the US does not generate nearly enough savings to finance its own investment needs. Until the US government cuts its own demand for American savings, any attempt to stimulate other economies would simply drive up the cost of capital. In Yoshitomi's view, only a fiscal squeeze in the US will prevent a world recession.

So is the world on the brink of a recession caused by lack of co-operation (Marris and Baker), or by US debt addiction (Yoshitomi, with strong German support); or are we, as Dr Greenspan seems to suggest, simply in an undignified flap over one month's trade figures?

There is quite a lot of evidence to support a cheerful view. The volume of US exports rose at a quite remarkable 14 per cent annual rate in the first half of this year; and if it has now paused for breath, that is not very surprising.

Meanwhile, US consumer demand, supported for so long by seemingly reckless borrowing, is at last levelling out, which will in due course reduce the demand for imports. The celebrated Federal deficit is sharply down, and should be further reduced (though not so sharply) by the Gramm-Rudman "fix" just enacted. Only the rise in industrial investment may enlarge the trade deficit: but that is healthy in the long run, and in any case much of it is financed by foreign companies.

This is a strong reminder of recent British history: in 1976 imports of equipment for the North Sea produced dreadful current account figures, but in fact heralded a strong recovery. However, 1976 was a year of grim crisis in Britain. A similar crisis may hit the US.

The NABE conference, indeed, was a powerful example of the fact that good news may not breed confidence. The members, who advise most of the major US companies, were reporting on a year when growth had exceeded their expectations, and the news they brought from their own employers could hardly have been better. The *proportion expecting* improved sales and profits had doubled since 1986, and those with weak forecasts were reduced to a tiny minority.

This was indeed the biggest improvement in the corporate outlook that NABE members had ever reported. Nearly all of them, though, forecast reduced growth for the US economy next year, and no less than 90 per cent believed there would be an outright recession by 1989 at the latest.

This is obviously a possibility if the financial pessimists have their way; but it need not be as bad as that. The problem with the trade figures is partly psychological: American observers in particular have expected too much from a simple devaluation. This stimulates output, as the NABE company reports strongly confirm; but it only has slow and indirect effects on the balance between income and spending which is reflected in the current account.

The American figures are also distorted by the well-known J-curve effect; and US manufacturing export recovery has also been concealed by higher oil imports, which will remain a problem. The figures are also distorted by what we used to know in Britain as the leads and lags.

Or are we simply in a flap over one month's trade figures?

While the dollar is heavily and publicly supported, traders believe that it may go down at any *moment*, but *certainly will* not go up. As a result, importers stock up as a currency hedge, while export customers order at the last possible minute. Faced with all these problems, the US has not done badly to stabilise its trade deficit.

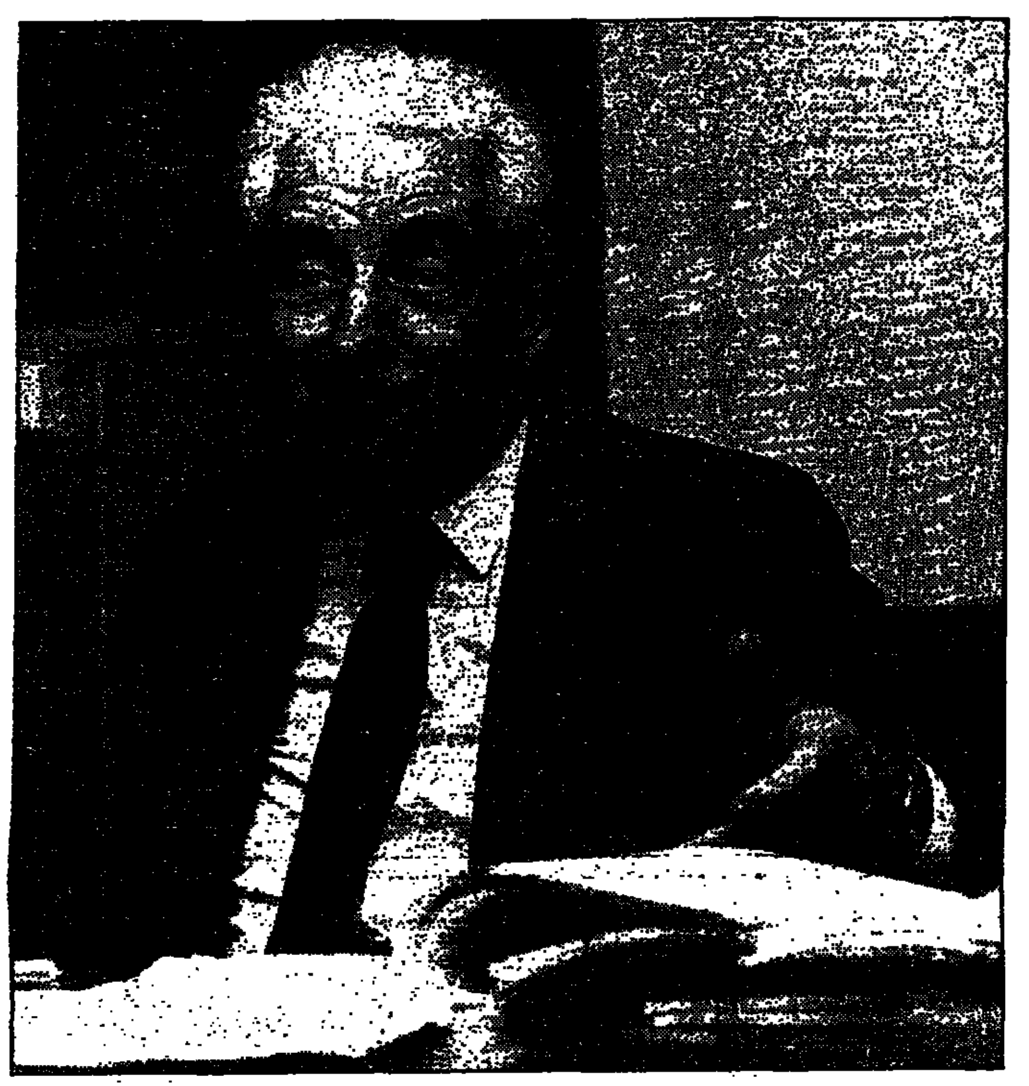
So far, all the same, events have followed Dr Marris's scenario uncannily closely, and he argues that further devaluation will still be needed to make room for a sufficient adjustment. There seem to be only two serious reasons to question his *projected unhappy ending*.

The first is based on the idea of the US as a rich developing economy. Savings are low because the population is relatively young, while investment demand is high both because the labour force is still growing, and because industry has much outdated plant. The funds will be willingly provided by older, less dynamic economies.

This may seem far-fetched, but the supporting evidence has persuaded Dr Marris's own Institute to concede that a US deficit of $50bn (£30bn) - one third of the present size - might be problem-free. *Others* put the figure higher.

Finally, there is the possibility that the US may soon enjoy the kind of step-change in industrial performance which seems to have occurred in Britain. This kind of change can fool the best-specified econom*ic model, which is bound to* project past patterns of behaviour. Unfortunately, financial markets are all too likely to make the same mistake.

INTERVIEW



Quentin Peel talks to Emile Noel, the father of the European Commission

Civil servant

FOR NEARLY 30 years, since the very first days of the European Economic Community, one man in Brussels has guided and guarded the role of its central bureaucracy, the European Commission.

When Emile Noel took up his job as executive secretary of the Commission in March, 1958, the number of his identity card was 33. The previous 32 were the Commissioners and their personal staff.

His retirement last month as secretary-general of the Commission marks the end of an era, *although not the end of* a remarkable career.

Since the first nine-member Commission, headed by Mr Walter Hallstein, started to create the European Economic Community outlined in the Treaty of Rome, Mr Noel has been present at almost every occasion of significance, from key Commission meetings, to agonising negotiations with national ambassadors and stormy summits of heads of government.

For the past 20 years, his encyclopaedic knowledge of Community history, and extraordinary memory for the detail of past negotiations, has proved invaluable in the endless pursuit of compromise and accommodation needed to bring first six, then nine, then 12 member states along the gradual road to the creation of common policies, and ultimately a common market.

More than any other individual, this French civil servant, the *archetypal eminence grise*, has set his stamp on the European bureaucracy, which he staunchly defends against critics who claim it is cumbersome and over-centralised.

He has always been extraordinarily discreet about his own views, although no one doubts *his* commitment to the reinforcement of *EC institutions*, and his ability to formulate key compromises has certainly had a major impact on decision-making.

Yet already in partial retirement - he has taken over as president of the European Institute in Florence, a university thinktank devoted to European issues - he is prepared to be more explicit about his hopes and fears for the future, even if still cautious about some of the more explosive occasions of the past.

Mr Noel does not expect the Community to break out of its bad old habit of making progress *by staggering* from one crisis to another.

"It was always difficult," he says. "Only now the difficulties are rather different. Previous crises - for example those resulting from the tension between France and Germany - were always more political than economic. Now we have crises which are *economic as well as* political.

"The greatest number of difficulties today stem from the beginning of the conflict between North and South."

The great standstill in EC development from 1979 to 1984, caused by Mrs Margaret Thatcher's battle for a better British budget rebate, "cost the Community very dear in political terms," he admits. It seriously weakened the EC institutions, in favour of inter-governmental deals, and undermined the concept of Community "solidarity."

The deal done at the Fontainebleau summit in 1984 to give Britain a long term budget rebate has also proved far more expensive in hard cash terms to the other member states than they expected. "It was a French compromise. If they got their sums wrong, we are not going to blame the British," he says.

However the one question never seriously raised in those bitter negotiations was the threat of British withdrawal from the Community. "Mrs Thatcher wanted to reform the situation from within."

That is not necessarily the same for some of the newer member states, Mr Noel believes.

"Since enlargement, there are a number of countries - Spain, Greece and Portugal - for which it is less evident that their interest *is indissolubly linked to* the Community. Their economies are relatively weak, and the establishment of the single (common) market, if there are no (compensating) measures taken, could have very serious consequences for their economies.

"For example, in Spain, there has been an explosion of imports from other member states, unmatched by any comparable increase in exports. The problem about how the Community deals with these fragile economies is one which did not exist until now."

The need to deal with the issue of the North-South divide in a 12-nation Community is at the heart of the long-term financing reforms of the EC budget proposed by the Commission's president, Jacques Delors.

"It is not really the finance, or the financial regulations. It is a question of how we reconcile stricter budgetary discipline with a much greater effort to help those countries in difficulties. Budget discipline does not mean that you do not spend, but that you *only* spend exactly what you want to."

The British view of EC budget reform is that it must be centred overwhelmingly on reform of the Common Agricultural Policy, which consumes more than two thirds of the available cash resources.

Mr Noel accepts that CAP reform is necessary - in order to save the policy. "We must save the CAP. Reforming it is the only way *to do so*," he says.

The cost in itself is not the problem. It is the only EC policy entirely financed by the Community budget, and therefore takes up a disproportionate share of resources. Problems arose when the combination of high prices and extraordinary growth in farm productivity in the 1970s meant that CAP spending became counter-productive, resulting in ever greater unsaleable surpluses.

Mr Noel believes that farmers - and the EC farm ministers - have accepted the inevitability of reform, and want to decide its direction, rather than have a solution imposed on them by their heads of government.

He is convinced that the Community is now beginning to "climb back up the slope" from the pre-Fontainebleau plateau. The key elements are the fixing of 1992 as the deadline for the completion of the real Common Market, and the passing of the Single European Act to reform the Treaty of Rome, streamline decision-making and give greater influence to the European Parliament.

He admits that the effort to give more powers to the directly-elected parliament is very controversial. "It is up to the parliament to show the system can work. Co-operation (between the parliament and the Council of Ministers) must be shown to be both possible and profitable. The Council must listen to the parliament. But parliament must not misbehave."

The danger is that the Single Act - which gives parliament a chance to amend legislation, while leaving the final decision with the Council - may prove more rather than less cumbersome.

Mr Noel still believes that a *second phase of reform should* be possible. It could allow the parliament's proposed amendments to become the final decision by default, if the Council cannot decide against them by a simple majority. "It is perhaps complicated, but it provides a better balance between the Council and parliament," he says.

Looking back at the Commissions he has known over the years, he admits that he still has the softest spot for the Hallstein Commission of the early years. "There was a remarkable quality of the people involved, as we were also involved in a key moment in history. We have never again had that feeling that everything was possible."

Mr Noel insists that the national administration for which he has the greatest respect is the British, with the French well back in second place.

"The British system of co-ordination is remarkable; the French system is not bad, but not anything like it. The German system is very weak in comparison."

He likes the image of the British Civil Service as a Rolls-Royce which only operates in second gear when it comes to European issues. "Let us hope that one day they get into third *or even fourth gear*."

He believes that in spite of the attempts of national governments to influence decisions in the Commission - most often through the private "cabinets" of individual Commissioners - the bureaucracy is now sufficiently self-confident and European to resist. He admits that the lines of communication within the Commission are overwhelmingly vertical - a reflection of Hallstein's German background, rather than his own French experience - and not very good between different divisions horizontally.

His greatest regret is the failure of the founding fathers of the Community to accept a clear political dimension along the lines of the European Political Community proposed in 1952, which would have led ultimately to a federal system.

"The step towards a more political union was brutally interrupted," he says. "But you can never really get the economic without the political. I believe the political aspect is indispensable. A few less controls at frontiers is simply not enough.+

A realistic basis for fear

JUSTINIAN

THE UK HOME SECRETARY was absurdly alarmist last week in his reaction to the decision of the Court of Appeal in the case of the six Tamils who are claiming refugee status in Britain. Worse still was Mr Hurd's threat that if the House of Lords - to whom he is appealing in unwarranted haste - does not allow his appeal, he will seek legislation which effectively would involve abrogating the British Government's obligations under an international treaty to which Britain has faithfully adhered.

The Geneva Convention of 1951 relating to the Status of Refugees - as amended by the 1967 *Protocol to the Convention* which removed the requirement that the only refugees that qualified were those who could show that their fears of persecution arose from events occurring before 1951 - were both signed and ratified by the United Kingdom. Article 1 of the Convention defines a refugee as a person who "owing to a well founded fear of being persecuted" is unable or - owing to such fear, is unwilling - to avail himself of the protection of the country of his nationality.

The six Tamils were claiming that the Home Secretary, in considering their applications for asylum in the UK as refugees from Sri Lanka, had adopted the wrong legal test. The Home Secretary has said that a "well founded fear" has to be established on a balance of probabilities, viewed objectively. All that the Court of Appeal said in rejecting the Home Secretary's test and following an interpretation of the Convention by such authoritative courts as the US Supreme Court and the Canadian Supreme Court, was that that the adjectival qualification, "well founded", did not transform the subjective nature of the fear, so that a fear which objectively could be shown to be misconceived was not excluded *from subjective considerations*.

In other words, if a claimant could show a realistic basis for his fear, but could not positively show that persecution would materialise, he was nevertheless entitled to be a candidate for refugee status. That subtle difference in approach to the interpretation of an international treaty will hardly flood this country with refugees. That is much more likely to be caused by incidents such as the hurricane last Friday morning that swept on shore the 34 Tamils detained on board the former Sealink ferry Earl William berthed at Harwich.

Even if the Home Secretary were sensibly to bow to the judicial decision which is eminently correct and sensible, it would not follow that the six Tamils thereby became refugees entitled to asylum in Britain. The Home Secretary would still have the right to conclude in each case that an individual Tamil's fear of persecution was not rationally based.

Here the Court of Appeal has been *less than helpful. Sir John* Donaldson gave an odd example of why the test of well founded fear had a subjective element in it. He instanced a bank cashier confronted with a masked robber pointing a pistol at him and demanding money. That without doubt would constitute a situation of a rationally based fear.

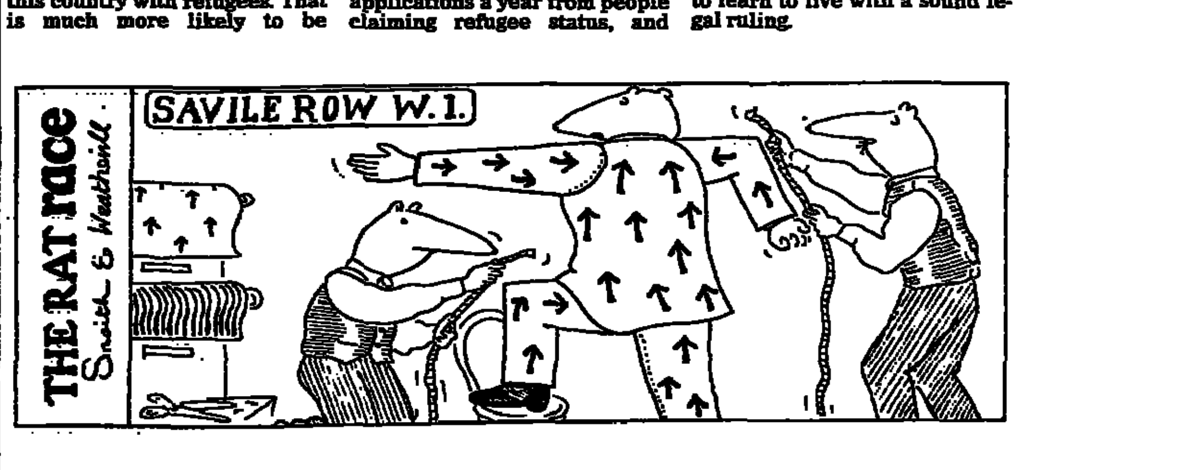
Sir John went on to say that the bank cashier's fear "would have been no less well founded if, one minute later, it emerged that the firearm was a toy pistol." The analogy is imperfect. The fear of the bank cashier can only be momentary. The moment he discovers the true *facts, the rationality of his fear* disappears. So too with the refugee from a country engulfed in civil war. The cessation of hostilities would remove the previous fear of death at the hands of the invading army.

The problems facing officials at the Home Office are purely numerical. In recent years there have been 4,000 to 5,000 applications a year from people claiming refugee status, and each case has separately to be processed by administrators and decided on by Home Office ministers. The main task is to weed out the bogus from the genuine claims. Many claimants are simply fleeing from poverty and economic deprivation.

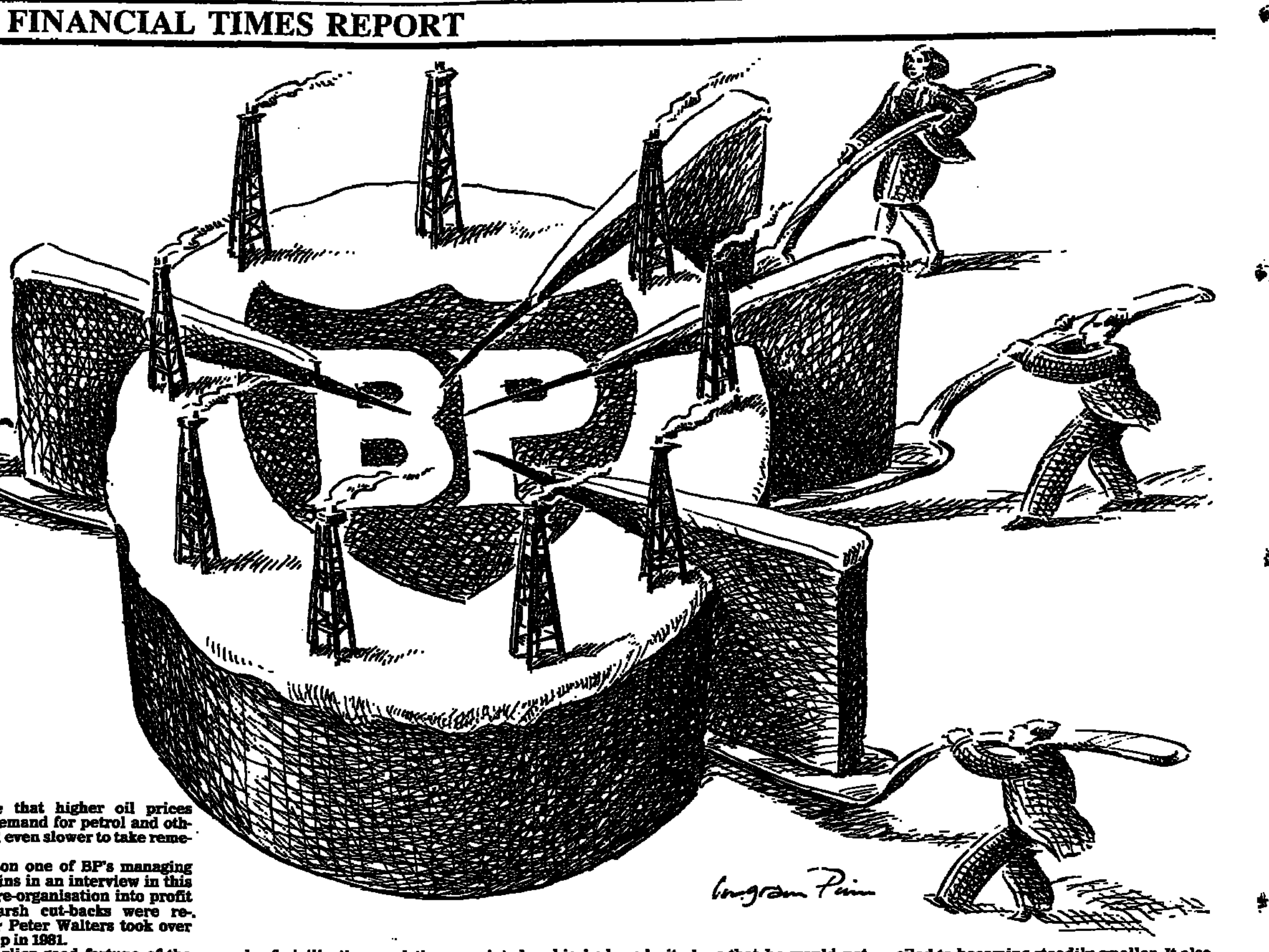
The Convention, however, provides for refugee status only for those who are fleeing persecution and tyranny on one of a number of grounds. Apart from reasons of race, religion, nationality and political opinion, persecution may also be by reason of "membership of a particular social group." This phrase was intended to embrace those *who are persecuted because of* their social origins.

The language used however goes wider than this. Claims to asylum have, for example, been made by individuals asserting that as homosexuals they were members of a social group persecuted in their countries of origin. They would seem to be included within the definition of refugees. Other categories might include conscientious objectors to military service. Conscientious objection might constitute a political opinion but if it is simply a question of draft evasion it would not amount to persecution on that ground unless the penalties for evasion were disproportionate. In one case it was held that the South African Army is crucial to the maintenance of apartheid, that refusal to serve in that army because of conscientious objection to apartheid is punishable under South African law and that fear of such punishment constituted well founded fear of persecution.

Do women, children or old people qualify as members of a "particular social group?" Is for example a woman from Iran who commits adultery and thereby renders herself liable to criminal prosecution within the "membership of a social group?" *Governments will do* better to seek clarification from the courts on such questions rather than to engage in outraged posture at seemingly unwelcome legal decisions. It is unthinkable that the Briish Government will abrogate such a longstanding treaty obligation as the Convention relating to the status of refugees. It is wiser to learn to live with a sound legal ruling.



Tomorrow, investors will have the chance to participate in the £7.2bn offer of shares in British Petroleum. In this special three page report FT writers look back at BP's history, its current strengths and prospects, and at the background to the biggest share sale ever.



THE SHARE OFFER

BY MAX WILKINSON

Nationalised by Winston Churchill, then privatised by James Callaghan, British Petroleum is finally to be liberated from its last ties with the state by Mrs Thatcher, in the largest share sale in history.

It has been a remarkably good investment for the British taxpayer over the last 73 years. The Government's 31.5 per cent holding in the company is being offered for sale this month at £5.7bn, which is more than 6,000 times the value of the shares when Churchill bought them in 1914.

Even allowing for inflation, that represents a real increase of 17,700 per cent on the value of the original holding. This reflects BP's rise to become the world's third largest oil company, well able look its bigger sisters, Shell and Exxon, in the face in most comparisons of performance.

Since Churchill bought a 67 percent stake in what was then the Anglo-Persian oil company, to secure fuel supplies for the Royal Navy, BP has undergone several revolutions. The huge Middle East discoveries, which brought its success at the beginning of the century have been nationalised.

But by a spectacular combination of skill and good luck, BP discovered the free world's two most important accumulations oil outside the Gulf, in Alaska in 1969 and in the North Sea a year later.

But BP's good luck did not stop there. Just as it was discovering these huge deposits in inhospitable parts of the world, the international price of crude started on a rise which was to increase its value 1,000 per cent by the end of the decade.

Oilfields under the grey rollers of the North Sea and in the distant Arctic, which had seemed barely commercial because of the enormous costs of extraction suddenly became money spinners. The discovery of Arctic oil at Prudhoe Bay enabled BP to get a firm foothold in the US. In exchange for Prudhoe, BP gained control of Standard Oil of Ohio, then mainly a refining and marketing company. This was consolidated earlier this year with the purchase for $7.6bn of the 45 per cent of the shares in Standard which it did not already own.

The discovery of the big Alaskan and North Sea reserves was also the key to freedom from control by the British Government. The rise in the company's value proved too tempting for the Labour Government in 1977, after a serious financial crisis. Although the BP shareholding was regarded by the Bank of England as the "Crown Jewel" of Government assets, a block of shares was sold which brought the government stake down from about 50 per cent to 30 per cent.

But BP's sudden access of riches also enabled the group to make some costly mistakes, some of which are still being unscrambled. In the UK, BP lay back on the cushions of its crude oil revenues, badly neglecting the efficiency of its other businesses, particulary refining. It was too slow to realise that higher oil prices would reduce demand for petrol and other products, and even slower to take remedial action.

As David Simon one of BP's managing directors, explains in an interview in this report a major re-organisation into profit centres and harsh cut-backs were required after Sir Peter Walters took over the chairmanship in 1981.

Just as the earlier good fortune of the early 1970s helped to create problems for the group, so Sir Peter's difficulties a decade later helped to preserve BP from some of the errors of its competitors. While other oil companies were out on a buying spree, spending huge amounts of their oil revenues on acquisitions which now look expensive, BP was absorbed by its internal traumas. It was closing 40 per cent of its refining capacity at a time when Britain had fallen into its worst recession since the 1930s.

Sir Peter, and BP's planners must also be given credit for realising that oil prices might topple from the precarious levels to which the Arab producers had pushed them in 1979. Financial consolidation therefore had a precautionary element as well as compensating for past errors.

However, BP's success in Europe was by no means matched by the performance of its US subsidiary, Standard. Under its US management, Standard had been absorbed in the gigantic task of developing the 11bn barrel Prudhoe field far beyond the reach of civilisation, and the associated pipeline across Alaska. As operator for half this 700 square mile field it succeeded in building the equivalent of a small city on the permafrost, overcoming enormous logistical and technical difficulties

But Standard became so absorbed in this technical feat that it failed to devote enough management talent to the equally important task of re-investing the cash which started to pour out of the Arctic.

After some $4bn had been squandered on doubtful adventures, BP finally lost patience. In the early part of last year, as oil prices were tumbling, it exercised its right as the major shareholder to sack the top management. Mr Bob Horton, BP's jovial tough guy, who had been in charge of the UK refinery closures was sent to sort out the mess.

The full purchase of Standard followed in the early summer of this year, after Mr Horton and his financial lieutenant John Browne had shown that the company was remediable, and King Fahd of Saudi Arabia had made it clear that he would not tolerate an oil price much below $18

The complete digestion of Standard will doubtless take some time. However, after a momentous year, BP now finds itself a truly integrated international group with half its assets in the US, two of the largest oil fields in the world outside the Gulf, and an efficient marketing and refining operation, particularly in the US.

However, the task of re-construction is by no means over. The enlarged BP remains, as unkind commentators have said, a "two pipeline company". In spite of its successful exploration efforts over the years in Abu Dhabi, Canada, New Zealand, Egypt, Germany, France, the Netherlands and Gabon, more than 90 per cent of its oil production still comes from Europe and North America. And the great majority of this is pumped through two pipelines, the trans Alaskan line and line to the Forties field in the North Sea.

BP therefore needs to find or buy more oil or new business activities to replace these waning revenues - unless it is reconciled to becoming steadily smaller. It also needs to widen the spread of its activities beyond Europe and the US, if it is to stay in the same race as Shell and Exxon.

The £1.5bn rights issue attached to the Government's share sale, and the strong positive cash flow from its oil fields should enable it to expand by acquisition if opportunities should arise. However, many other companies are also out on the hunt, and bargains have not been easy to find.

A more radical effort to diversify seems unlikely. Sir Peter said recently: "There are few if any businesses that we are not in today that will attract us", and he has frequently stressed the need for BP to stick to businesses where it can hope for a significant market share and a comparative advantage over competitors.

So in the long term, BP must be hoping for another of those major discoveries that all oil men dream of, for continued steady expansion of present businesses, and and for new technologies and new uses for its coal and gas reserves.

William Hall charts the ups and downs in BP's history

A colourful world player

BP HAS ENJOYED one of the most colourful histories of any major multinational company and, unlike some of its rivals, is still around to tell its tale. It did not always look like this would be the case.

It was a relatively late arrival in an era when the oil business. and the interests of national governments, were even more conspicuously intertwined than they are today. By the end of the 19th century, John D. Rockefeller's Standard Oil empire, which included the forerunners of Exxon, Mobil and Chevron, had grown to monopolise the US oil industry and was threatening the very survival of its two major international rivals - Royal Dutch,which operated under royal charter in the Dutch East Indies, and Shell Transport & Trading which was founded by Marcus Samuel, a London entrepreneur.

Standard Oil, anxious to duplicate its domestic monopoly

A prices war in 1907 brought merger with Royal Dutch

in the international oil markets, had tried to buy both companies and when this failed tried to put them out of business by aggressive price cutting. Although Shell was the bigger of the two companies, it was less able to withstand the competition, and in 1907 it agreed on a defensive combination with Royal Dutch, giving the Dutch a 60 per cent interest in Royal Dutch Shell.

The deal was regarded as a humiliating defeat for Marcus Samuel, a Lord Mayor of London, and was viewed with considerable suspicion by the British Government. Winston Churchill, as First Lord of the Admiralty, was particularly concerned that the Royal Navy should be able to rely on a safe and cheap supply of fuel oil at a time of mounting military tension in Europe. He did not want this to be left in the hands of what he regarded as a foreign company.

It is against this background that the forerunner of BP - the Anglo-Persian Oil Company - came into being. The company owes its existence to the persistence of a colourful adventurer, Mr William Knox D'Arcy, who had made his fortune in the Australian gold-rush in the 1890s. Having retired to London, he was intrigued by reports that Persia contained giant oil fields, which might rival in size the recent huge Spindletop oil discovery in Texas.

The Russians were also showing great interest in the area but D'Arcy managed to win the concession after one of his lieutenants made the Grand Vizier an offer he could not refuse on a day when the Russian Oriental Secretary - the only man who could read Persian in the embassy - was out of Tehran on a hunting trip.

D'Arcy's concession, granted in 1901, gave him the sole right for 60 years to explore for oil over 480,000 square miles of Persia - an area nearly twice as big as Texas. He recruited George Bernard Reynolds, one of the great Middle Eastern oil pioneers, to head the exploration effort and for the next three years poured most of his fortune into the venture.

He kept up an extravagant life style in England, to the extent that his wife thought nothing of hiring Caruso and Melba to sing for her dinner guests on the same night. By 1905 he was desperately seeking outside finance to continue the search for Persian oil.

Burmah Oil, which had been founded 19 years earlier by a Scottish merchant and had grown rich on its Far Eastern oil interests, agreed to put up the working capital to continue the search and, just as it was losing faith in the venture, the group stumbled on the first major oil field in the Middle East at Masjid i Suleiman(MiS) in 1908, which came to be known as Fields.

The following year, the Anglo-Persian Oil Company(APOC) was formed. (Burmah retained a substantial stake in the group until the mid-1970s when it ran into financial problems of its own and forfeited its BP shares as part of the Bank of England rescue.)

APOC quickly began work on a pipeline to what would soon become the world's biggest oil refinery at Abadan, at the top of the Gulf. However, the venture proved far more costly and difficult than first imagined and money problems resurfaced. Meanwhile, Europe was sliding into war and Churchill was becoming increasingly anxious about the Royal Navy's fuel supplies.

In 1914 both sides solved their problems when the British Government signed a long-term supply contract with APOC and bought a two thirds stake in the company for £2m. To ensure the safety of its new investment, the British Government also took the precaution of invading Basrah in the Turkish province of Mesopotamia, now Iraq, which lay across the river from Abadan. It was feared that once Turkey entered the War, Abadan would be a prime target and the Royal Navy would be immobilised.

The Government's cash injection satisfied the company's immediate financial needs and assured it of an outlet - albeit not a very profitable one - for its rapidly growing oil production. By 1917 it had begun to acquire its own domestic outlets, by purchasing the British Petroleum Company, the UK arm of the Europaische Petroleum Union, and by 1921 it had built its first UK refinery at Llandarcy in south Wales.

After the war it continued to expand its Middle Eastern oil interests and in 1927 the Turkish Petroleum Company, in which APOC had a substantial stake, made the first oil discovery in Iraq. By the mid-1930s APOC had changed its name to the Anglo-Iranian Oil Company and joined forces with Gulf Oil to explore in Kuwait. In the UK it had merged its marketing subsidiaries with Shell, forming Shell-Mex and BP which came

Sole rights were won for sixty years in Persia

to control over 40 per cent of the UK market before being dissolved in 1976.

However, despite all this expansion the group was still dependent on Iran for two thirds of its oil production and refining capacity and had an Iranian workforce of 75,000 - more than two and a half times as big as the current UK workforce - when Iran did the unthinkable and nationalised its oil industry in 1951.

The event marked a turning point in the affairs of the company and its relations with the British Government. The latter was put in the unhappy position of having to decide whether to step in and protect a company over which it had little influence and the company was forced to face up to the fact that if it was going to survive as a major international oil company it could never again be so dependent on supply from a single country and nor could it count on the unfetterred support of its principal shareholder. The days when you sent a gunboat to pacify the local natives had long since gone.

By 1954, the CIA and MI6 had helped install a more sympathetic Government in Tehran and the renamed British Petroleum was once again lifting Iranian oil. But it had lost its exclusive monopoly and was working hard to develop new sources of supply in places ranging from Nigeria to Abu Dhabi and Libya.

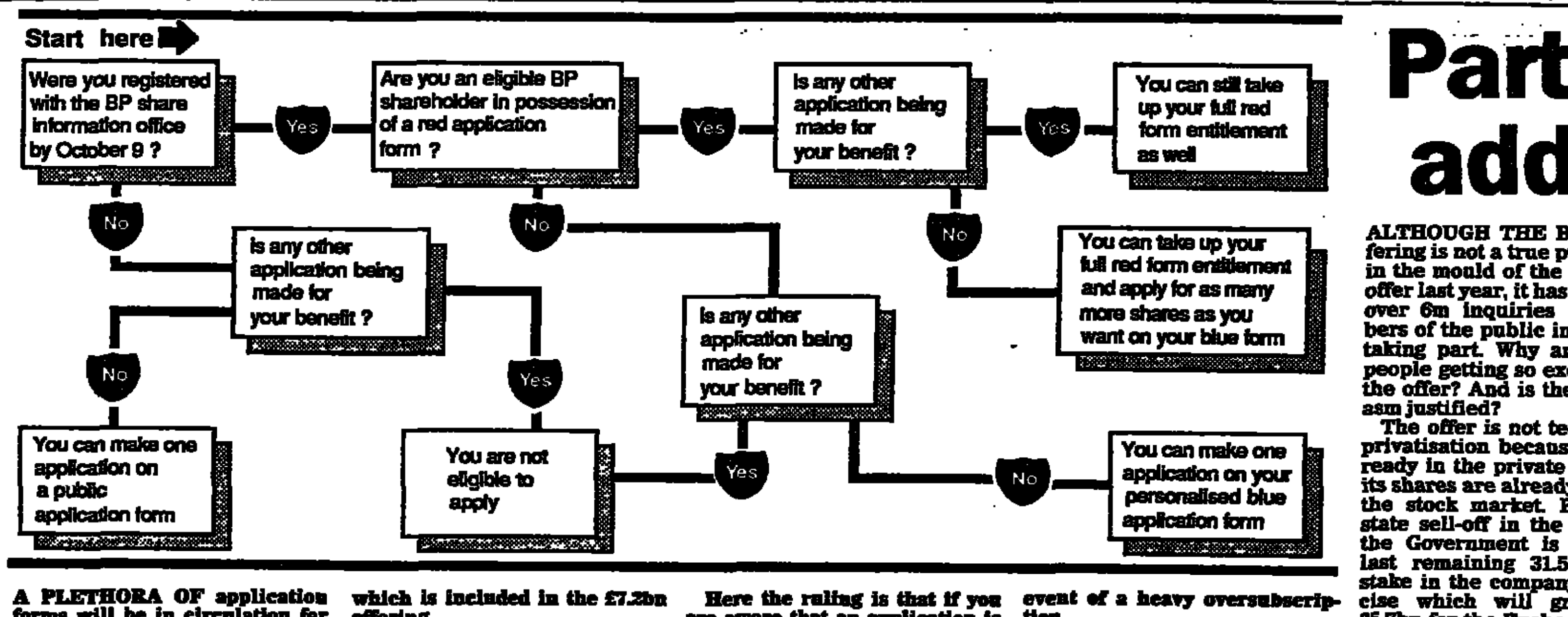
It expanded into petrochemicals and built one of the world's biggest shipping fleets to supply the world's steadily rising demand for petroleum products. This was a period when oil was cheap and the international oil companies were more powerful than the governments with which they dealt. However, the balance of power was beginning to shift.

The Organisation of Petroleum Exporting Countries(Opec) was formed in 1960 by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela and, while its early influence was limited, by the beginning of the 1970s this had changed. The turning point was the Arab-Israeli war of 1973 which led to an Opec embargo on oil shipment and the first unilateral rise in oil prices by the oil producers.

The events underlined BP's vulnerability to supply disruptions. Fortunately, its efforts to diversify its sources of supply had begun to pay off handsomely. In March 1969 it discovered oil in Alaska and made an equally important discovery in the North Sea just over a year later.

The two events transformed BP's fortunes and form the basis for the company as it is today. At the beginning of the 1970s most of BP's oil came from the Middle East. Today, it has the third biggest reserves of any oil company and some 87 per cent of these are located in the US and UK.

Continued on page 3



A PLETHORA OF application forms will be in circulation for the BP share offer: red ones for existing shareholders, blue ones for people who registered with the share information office, green ones for employees, and yellow ones to be found at the back of the prospectus.

As in other privatisation issues, there is a strict rule that only one application can be made per person: indeed, multiple applicants run a strong risk of ending up behind bars. But confusion looms over two exceptions to this rule.

The first exception applies to red form applications. These have been created to enable existing BP shareholders to claim their special entitlement to the £1.5bn "rights" issue of BP shares which is included in the £7.2bn offering.

Eligible BP shareholders - who include eligible members of the BP Group Participating Share Scheme - can use these forms to claim all or part of their entitlement of one new BP share for every 12 already held.

But it is important to note that red form applications do not count as far as multiple applications are concerned. You can make whatever red form applications you are entitled to (and some people may be entitled to more than one) plus one application only on any other form.

The second exception applies to personal equity plans where your PEP manager makes an application for BP shares to include in your portfolio.

Here the ruling is that if you are aware that an application is being made for your benefit, you cannot make a separate application yourself (unless, of course, it is on a red form). However, if it is a discretionary portfolio and you do not know whether your PEP manager intends to include BP shares in it or not, you are free to make an application of your own.

The blue application forms are being sent to people who were registered with the BP share information office by October 9 (and this includes BP shareholders, who were registered automatically). These forms, which (like the red ones) are personalised, will guarantee them at least 100 shares in the allocation and preferential treatment in the event of a heavy oversubscription.

Other applicants should use either the yellow form to be found at the back of the prospectus or a form cut out of a newspaper (such as tomorrow's Financial Times). Eligible employees of BP, however, should use the green form they have been sent because this will give them highly preferential treatment in the allocation.

The decision tree above is intended to help people through the applications maze. It is not, however, exhaustive: it does not, for example, cover the case of BP employees or people subscribing to PEP schemes. Those still in doubt should seek guidance from professional advisers.

Richard Tomkins

Part payment adds to value

ALTHOUGH THE BP share offering is not a true privatisation in the mould of the British Gas offer last year, it has drawn well over 6m inquiries from members of the public interested in taking part. Why are so many people getting so excited about the offer? And is their enthusiasm justified?

The offer is not technically a privatisation because BP is already in the private sector and its shares are already traded on the stock market. But it is a state sell-off in the sense that the Government is selling its last remaining 31.5 per cent stake in the company, an exercise which will gross about £5.7bn for the Exchequer at the offer price.

In addition, BP is taking the opportunity to raise approximately £1.5bn through what is effectively a rights issue of new ordinary shares. The proceeds will help strengthen the company's balance sheet in the wake of its acquisition of the minority interests in Standard Oil for £4.7bn earlier this year.

Rather than have two separate share offerings going on at the same time, the Government has decided to simplify matters by buying the "rights" issue off BP and lumping it in with its own share sale to make one giant £7.5bn offering.

Overall, some 2.2bn shares are being sold in the BP share offer, but not all of them will go to the British public. As another article in this report explains, at least 825m of the shares will go into a separate international offer for institutional investors in the UK and overseas.

The 1.1m shares on offer to British investors - or 1.4m if this part of the offer is more than twice subscribed - will be priced at 330p a share - a discount of 17p to the opening price of BP's existing stock on October 15.

Potential investors might well ask where the attraction lies in such a small discount, since logic suggests that the shares being sold will simply revert to the market price when dealings begin thus providing a premium of 5 per cent - a trifling profit compared with those notched up in other recent Government issues.

The answer lies in the fact that only 120p of the share price has to be paid on application. The second instalment of 105p does not have to be paid until August 30 1988, and third instalment of 105p is not due until April 27 1989.

In theory, this gives added value to the shares because they are being offered on interest-free credit. The unpaid part of the price can therefore be put on interest-bearing deposit until the second and third instalments fall due. This is the so-called time value of the unpaid instalments.

Further, the premium which the shares attract will be much bigger as a percentage of the actual initial outlay than it would have been as a percentage of the fully-paid price.

If these arguments are taken to their logical conclusion, the arithmetic works like this:

In order to meet the cost of paying the second instalment of 105p in August 1988, investors need only to find 97p now, because, if they put that sum into an account earning inerest at current rates it will have grown into 105p by the time the sum falls due.

Similarly, the amount that has to be deposited now in order to

The offer has attracted more than 6m.inquiries

produce the third instlament of 105p in April 1989 is only 91½p

Now add together the 8p time value of the second instalment, the 13p time value of the third instalment and the 17p discount at which the shares are being issued, and you have the 38½p premium to which an efficient market will theroetically take the partly-paid shares when dealings begin. That represents a very attractive 32 per cent of thr 120p partly paid price.

In practice, it is unlikely that the premium will be quite as great as that unless there is an upturn in the stock market between now and the day dealings begin.

The short-term investor, however, can still look forward to an attractive and worthwhile premium as long as the stock market holds firm. And it is important to note that because this is such a big share ofering, allocations will be much larger than in other recent privatisation issues,

In the longer term, the time value premium attracted by the partly-paid shares will gradually diminish as the second and third instalments become payable. But this does not mean that the longer-term investor loses out: he or she will instead benefit from having acquired the shares (and the accompanying dividend stream) on interest-free credit. They will also get the usualloyalty bonus of one free share for every 10 still held in three years' time.

Richard Tomkins

In good shape to compete in world markets

David Simon, BP's managing director for finance, has been closely involved in the major re-organisation since 1981, and in shaping future policy. In this interview with Max Wilkinson *he discusses the company's position as the world's third largest oil group, how it got there and its strategy for the future:*

MW: For many potential investors in BP, the most important question is probably what will happen to the price of oil. You have clearly shown some confidence that the price will remain more stable. What is the reason for that, and how would BP fare if the price were to fall back to the levels of 1986?

SIMON: Up to to the end of the year, our profit forecast is dependent on oil staying in the $18.50 a barrel range with the sterling-dollar exchange rate at $1.65. Because of the formalities of the offer, I can't say much on this subject. However industry forecasts suggest that over the next two years a price of $18 to $20 in present day values can be expected. Of course prices may move outside this range. One of our key management responsibilities is to cope with a volatile oil price. Last year Standard Oil, our US subsidiary, wrote off £280m of oil properties, and this clearly makes the company more robust at any price.

MW: BP has been through a period of radical change since Sir Peter Walters became chairman in 1981. What was the main effect of this re-structuring?

DAVID SIMON: Our first task was to divide our activities into ten separate businesses, of which the five most important were: upstream and downstream oil, chemicals, nutrition and minerals. The key objective was to make each business competitive in its own sector. So, instead of having an integrated chain of businesses which very much lent on one another without a clear financial focus, we required managers of the different businesses to clarify their own markets and to become competitive and profitable.

MW: BP was in fairly bad shape before that, particularly in the refinery business. How far have you got with these changes?

SIMON: In the downstream oil and gas business, we were at one stage bottom of the league of seven or eight major companies. We have since improved efficiency and now we are in good shape by the standards of the industry. We have done that by very stringent rationalisation, taking out surplus capacity and surplus manpower and trying to be cost competitive in every market. And we turned ourselves into a market trading oriented company rather than having surplus refineries to push as much crude oil as possible through the system.

MW: It is generally agreed that you have got unit profitability up among the best, but what about your product mix? You still produce proportionately less high value lighter spirits compared with Shell.

SIMON: No we haven't got as "white" a barrel as Shell in Europe, but we certainly do have in the US. However, I think we will move towards producing more lighter products in Europe, since transport fuels have greater growth than heating oils

MW: What about the continuing over-capacity and low margins in the refining industry?

SIMON: I would like to make a difference between marketing margins and refineries. Marketing margins have on the whole been very steady through 1984, 1985 and 1986 and I think 1987 is again showing a very reasonable marketing return. Refining margins have been under tremendous pressure as they were in 1985, because there is still probably 50m to 100m tonnes of surplus capacity in Europe. We closed over 40 per cent of our capacity between 1981 and 1985, which is by far the highest amount of any of the major companies relative to their business. We would like to see some more closed but we can't take decisions for our competitors.

MW: Looking more generally at the three major oil companies, what would you say are BP's comparative strengths compared with Shell and Exxon?

SIMON: We are half the size of those two in financial terms, but our oil and gas reserves are the third largest among the major companies,and they are heavily concentrated in the politically stable Europe and the US. We have a very flexible world-wide trading system, which stands up well against those of our major competitors. We have a flexibility which perhaps is more possible if you're a lot smaller.

MW: What are the areas in which BP needs to catch up. Is size one of them, for instance?

SIMON: No I dont think size is the critical factor for BP. Our key corporate strategy is to maximise our value to shareholders in the short, medium and long term. We will do that by maximising the value of our assets and by continually making all of our businesses aware that they must achieve dividends in the short term as well as capital growth. One of the advantages of being relatively smaller is that it gives room for expansion by organic growth and by improving the portfolio of assets.

One of our weaknesses is that we don't have enough of our assets in the Far East, where incomes are growing fast. And we are quite prepared to grow by acquisition.

MW: Does the fact that you have just spent $7.4bn buying Standard Oil in the US mean that other large acquisitions will have to be put off for some time?

SIMON: No. One of the reasons we are making an equity offering of £1.5bn is that we want to regain the balance sheet strength and flexibility that we achieved by our strategy in the first five years of this decade. We have wanted to keep the ratio of our debt to debt plus equity ratio at about 30 per cent, with a liquidity cushion of around £1bn, precisely to give us flexibility. So if the opportunities for acquisition do arise, we can move relatively speedily.

MW: As your major sources of oil in the North Sea and Alaska run out what is going to replace them. Will you be attempting to replace that oil by acquisition or by exploration?

SIMON: We've been producing about 1.4m barrels per day of oil over the last five years, and we have replaced most of that. We have new fields coming on stream. We have Endicott in Alaska, and Wytch Farm in Dorset is being extended. We have in the pipeline Miller in the North Sea. We expect to be able to maintain our current production of oil and gas over the next five years. The recent upgrading of the Forties reservoir in the North Sea demonstrates the potential for increasing recovery from existing fields.

MW: But looking further ahead the industry's view seems to be that major oil reserves will become progressively harder to find? What is BP's longer term strategy for that period?

SIMON: Beyond the ten year horizon, we are looking at new ways of getting existing hydrocarbon deposits to the market. For instance there are big gas reserves which have not yet been brought to the market. About 25 per cent of our reserve base is gas but only seven per cent of our production. Another question is how and whether gas is going to be converted to liquid fuels in the 10 year to 20 year timescale. We already have a process for potentially turning methane into liquid fuel which raises many exciting possibilities for us.

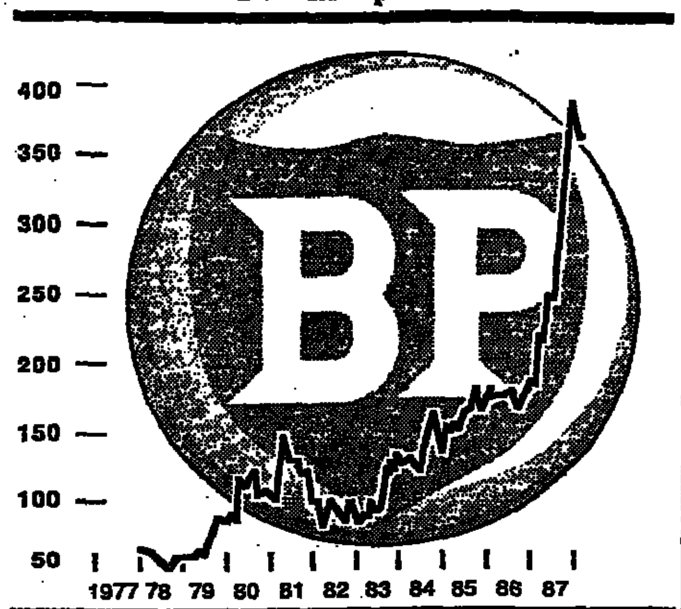
MW: So what kind of company do you expect BP to be in 15 years' time?

SIMON It will still be predominantly a hydrocarbons company, but I would see three changes: first, a more extensive international asset base. We are predominantly a US and European company now. I think we will extend more into the Pacific and South America. Second, a much wider shareholder base should give us better access to the international equity markets, and potentially more customers. Thirdly, I think we will probably see stronger marketing businesses for oil products, chemicals and nutrition products.

MW: Might BP have absorbed one or two smaller independent oil companies by that time?

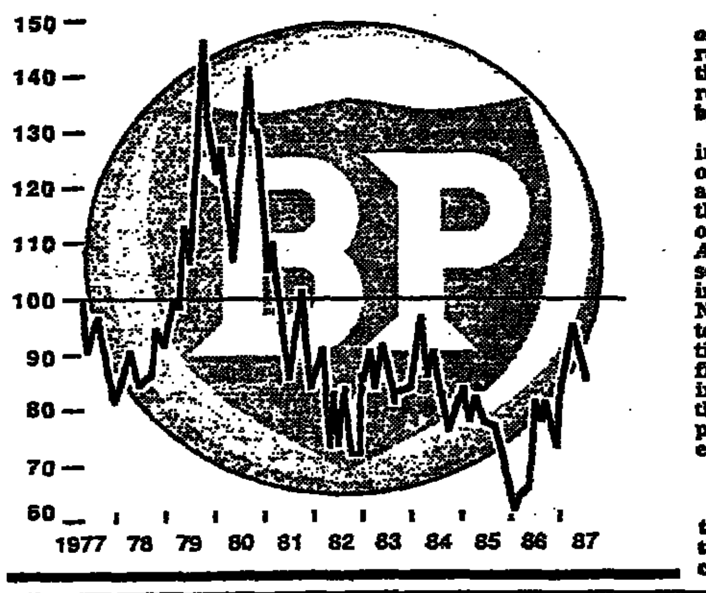
SIMON: Acquisition will be one of the ways by which we expand our downstream businesses. Upstream? Well we have already done it by buying Standard Oil, but I think if opportunities for acquiring reserves arise, we will certainly take them if it looks more economic than exploring off our own bat - which to date has been relatively successful.

BP share price



David Simon: stringent rationalisation

Share Price relative to FT-A All share index



BP share purchase timetable

Tuesday October 20:
Prospectus appears in national press.
Wednesday October 28:
Offer closes at 10am.
Friday October 30:
Pricing of international offer revealed; allocation announced; dealings begin at 2.30pm.
Monday November 9:
Letters of allotment posted to small investors.
Thursday December 31:
Last date for trading in renounceable form.
May 1988:
First dividend payment (the final for year to December 1987) due.
August 1988:
Second instalment of share price due.
April 1989:
Third instalment of share price due.

All you wanted to know

Q. If I buy shares in the BP offer, can I be certain of a big premium when dealings begin?

A. No. However, if the market stays favourable, the Government's advisersbelieve that the partly-paid shares could go to a premium of up to 32 per cent. That may not be as much as in some other recent privatisations, but it is still very attractive for an almost instantaneous return.

Q. Last time I applied for shares in a privatisation issue, it was so heavily subscribed that I only received 100 shares. Is BP going to be worth the bother?

A. In this respect, yes. The BP offer is much bigger than other recent privatisation issues, so there should be enough shares available to give a sensible allocation to everybody.

Q. So how many should I apply for?

A. People applying for a few hundred shares will probably get all or most of what they ask for. Beyond that, there will probably be a gradual tailing off, with blue form applicants getting slightly more shares at every level than non-preferential applicants. The British Gas allocation might well prove a model for BP.

Q. I bought some BP shares last month to be sure of preferential treatment in the allotment. Now the people at the share information office have gone and sent me a red form to apply as a BP shareholder and a blue form to apply as member of the public. Aren't they inciting me to crime?

A. No. Red forms are in a category of their own. They confer a special privilege on existing BP shareholders to apply for a section of the offer that has been set aside for them. You can fill in the red form and still make a single application on any other form for shares in the rest of the offer.

Q. But what on earth is the point of that? Why don't I just apply for all the shares on the one form and throw the other away?

A. Because the red form guarantees you as many shares as you ask for up to a maximum of one for every 12 already held. Your best strategy is therefore to apply for as many shares as you can on your red form and then top up on the blue.

Q. Can I make separate applications for my wife and children and accompany them with cheques drawn on my own account?

A. Yes: Children under 18 are not allowed to apply on their own, but if your family is unusually large, you should not be surprised to receive an inquiry from the accountants who are policing the offer asking for evidence that your offspring actually exist.

Q. I'm only looking for short-term gains in this offer. When my family and I get our letters of allocation, can we bundle them into one and sell them for a single dealing commission?

A. Probably; it depends who you deal with. The National Westminster Bank, for example, says its on-the-spot dealing service will accept a bundle of up to five allotment letters bearing the same family name and address.

Q. How soon will I be able to sell the shares?

A. Dealings start on Friday October 30, two days after the offer closes, but allotment letters will not be posted until Monday November 9. It is unlikely that you will be able to deal without an allotment letter unless you are an established client of a stockbroker or other intermediary.

Q. Are there any risks involved in going for the BP offer?

A. Yes. If the market were to turn sour between now and the start of dealings, or before your letter of allotment arrived, you could see the shares going to quite a narrow premium, or even conceivably a discount.

Brokers'views

A sound investment

IS BP GOING to be a bonanza? Or is it all hype with little return? Should investors buy the shares and stash them away, or take a quick profit? Most of the experts in the City are advising their clients to buy BP, although with widely varying degrees of enthusiasm. They talked to Lucy Kellaway.

Mike Unsworth of Smith New Court

"Based on the current price, the partly paid shares in theory should go to a premium of 30 per cent. But in fact it will all depend on the market - and if the oil sector looks strong over the next two weeks, the premium could be much larger. This should make it a good stagging issue. If the price stays at current levels, investors should be able to get a decent amount of stock, much more than the tiny allocations in many of the recent privatisation issues.

The new shares have intrinsic qualities: they are marketable and highly geared, so they may become the preferred instrument in the oil sector. The high yield may well protect the shares against a sharp fall, making the gearing effect asymetrical.

Simon Wharmby of Sheppards

"Investors will get nothing like the promised 30 per cent return on this one. While they might make a modest gross turn, after costs - we are charging £50 a bargain for private clients - the return will be infinitessimal. The private investor is going to get a shock when he discovers that after all expenses he will have made about £5.

The main reason for buying the shares is the yield, which on the partly paid shares will fantastic - in double figures.

The demand from UK institutions should be good, as they are underweight in BP, and lots of them have sold the old BP shares in the last few months in anticipation of the issue."

Timothy Morgan of WI Carr

The issue has been structured to make it a terrific long term investment. If private investors want to invest in equities at all, they should go for the big names. They won't get a better chance than this to get into an excellent company at a discount and on an instalment basis. BP is a better company than British Gas, and also misunderstood. People talk about BP being exposed to the oil price, but this is not really true. When the oil price collapsed last year the shares held up well.

My only concern is whether the overseas investors will like it. The US market could spoil the issue there, and in any case BP looks expensive compared to US oil companies like Mobil.

Paul Spedding of Kleinwort Grieveson

I expect the shares to do well both in the short term (there should be a premium of about 43p) and in the long term, when investors will get their one for ten bonus. However, I do not think that as many private investors will go for this one as applied for British Gas. The campaign has been lower key, more brokers are cautious about it, and markets are not booming. I would hazard a guess that Rothschild will have trouble triggering the clawback.

Peter Nicol of Chase Manhattan

I expect this one to be very popular with the private investor. The name is even better known than British Gas, and a premium of 25p to 30p a share should be easily achievable. But on a three to four year view it is more risky. It is not nearly such a safe investment as Shell, British Telecom or British Gas.

Peter Spring of Greenwell Montagu

The issue is taking place against a fairly strong background in the oil market. The winter season should come to the aid of Opec, and we expect oil prices over the next twelve months to move up to $20 a barrel. I think it could attract more than 5m investors - everyone has heard about BP, and the premium is likely to be more than 30 per cent.

Alan Solomon of Laing and Cruickshank

"This offer is not an amazing bargain for investors, although it offers a good yield in the first year, and should start trading at a premium of about 20p. It comes with all the risks of investing in oil companies - it is not a safe bet like British Gas. Even so, it should be well received, attracting about 5m to 6m investors, as well as healthy demand from UK institutions, who will want to push up their weighting in the stock.

Brian McBeth of Schroders Securities

"I think the price may start heading south once dealings start. It looks as though a lot of the UK institutions will sell in the market quickly, as they already have a sizeable chunk of BP shares. In any case they are feeling increasingly bearish about the market in general and oil shares in particular, which may suffer badly from oil price weakness during the first quarter of next year. But I still think it is attractive for the small investor with its high yield and bonus shares.

BP and Shell compared

Non-identical twins

BP'S ALASKAN oil fields, its chicken feed business and its underwater paints have each in turn been inspected by potential shareholders over the last few months in conscientious preparation for the record share sale.

Yet, while the company itself has been exhaustively examined there has been almost no debate about the relative merits of BP and Shell, its investment twin.

For a small investor the oversight may be excusable. For him the merits of the issue lie more in the special perks attached to the shares than in the placing of BP relative to the oil sector. But for bigger and longer term investors any failure to consider the oily alternatives to buying BP would seem a serious omission.

Although involved in the same business and beset by the same concerns, Shell and BP are quite different companies each with its individual style. Shell has always been thought of as the "downstream" company, with its main strengths at the refineries and the petrol pumps. While it has never produced quite enough crude oil to fill its refineries, its "upstream" activities (which involve looking for oil and producing it) are well balanced, not overly dependant on any one field or country and with a large portion of the total production made up by gas.

BP, on the other hand, has been far more successful upstream, whereas until recently its position in refining and marketing oil has been weak. Unlike Shell, its oil production is heavily concentrated on two giant fields: Prudhoe Bay in Alaska and Forties in the North Sea.

The management style of the two companies also differs, with BP traditionally regarded as the less well run of the two. This was particularly evident during the 1970s, when the money was flooding in from its two huge oil discoveries. BP neglected its downstream activites, allowing them to become heavy loss makers, while its attempts to reinvest its piles of cash in oil and in mining, proved equally unhappy.

However, more recently past damage has been repaired, and under the leadership of Sir Peter Walters refineries have been closed, and disastrous diversifications unscrambled. Even though the company is now perceived as being well managed and efficient, the popular view of Shell as star of the international majors has not yet been overthrown, although it has certainly been challenged.

The differences between the two companies have been clearly reflected in their relative share prices. BP, with the larger proportion of its profits in oil production, has tended to outperform Shell when the oil price is rising, and suffer when it is falling. During the 1970s, when the price of oil rose tenfold, BP consistently traded on a lower yield than Shell, while in the shakier 1980s the position was reversed, and the yield advantage was transferred to BP.

At the same time other influences have also been at play. While shunned on oil price grounds for the past few years, BP has earned market respect by pulling its affairs into shape, and has increasingly been viewed as a recovery stock.

Indeed, since the start of this year, all seems to have been going BP's way, and in the last month or two investors have demanded a higher yield on Shell shares for the first time since 1980. The oil price has once again moved in BP's direction, with the consensus that oil prices are more likely to rise than to fall over the next year or so.

More important in the re-rating of the two companies has been differing paths that their growth is expected to take. BP has completed the springcleaning stage of its strategic plan, and is now ready for some serious expansion. The market expects that this year's weighty £4.5bn purchase of the minority interest in Standard Oil will be just the beginning.

Indeed the speed with which BP is filling the hole in its balance sheet made by the acquisition underlines its willingness to make another major move. Such expanison has boosted the BP share price, as the market evidently prefers the promise of big deals to a future of more gradual growth.

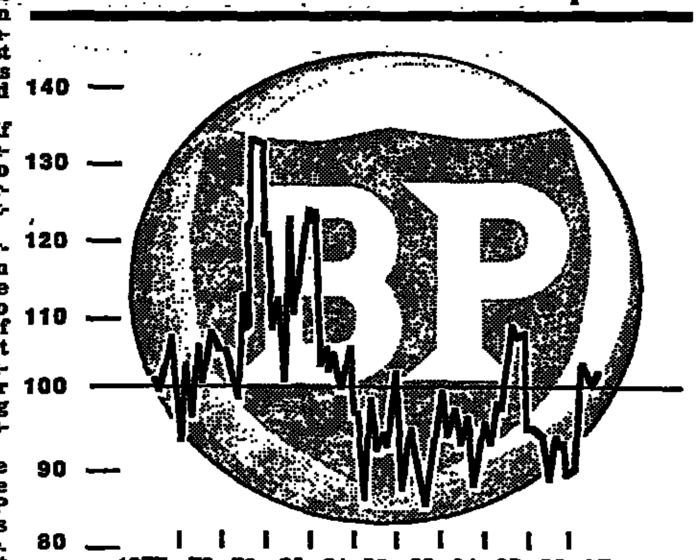
By contrast, Shell is not expected to announce any revolutionary deals cabable of changing the shape of the company. This is through no want of funds; with a cash mountain of about £6bn, Shell could buy almost whatever it wanted. Instead it is expected to continue to make a whole series of purchases which will gradually build and strengthen.

Undoubtedly the share sale itself has also been good for BP, as all the publicity has concentrated attention on the company's strengths, on its recovery, its gearing to the oil price and its potential for strong growth.

But does BP really deserve to be on a lower yield than Shell? Stockbroker, James Capel does not think so. It sees the choice as between Shell's established position and BP's ambitious plans, and concludes that BP should offer a slightly higher payout - perhaps by half a per cent or so - to compensate for the higher risk of its game plan.

Lucy Kellaway

Share Price relative to Shell share price



Institutional investors

Demand from bidders will set the price

FOR ALL THE advertising blitz aimed at the man and woman on the Clapham omnibus, lay members of the British public would be wrong to assume that they are to be the sole recipients of shares in BP's offering. Behind the scenes, an intensive marketing campaign has been conducted in an attempt to secure a strong take-up by institutional investors, too.

But the terms on which the institutions are being offered the shares are radically different from those available to the small investor.

Indeed, they are radically different from the terms on which any UK equity offering has been conducted before: and the response will have implications not just for BP's share price when dealings begin, but possibly for the structure of other share offerings to come.

The difference between the two parts of the offering is partly explained by the need to resolve the conflict of interest which has existed in virtually every privatisation issue since the widening of share ownership became a Government objective.

On the one hand, the Government's obligation to secure the maximum value for money for the taxpayer means it ought to set the highest price possible on the shares of state-owned companies being sold off to the public. On the other hand, if the Government is to encourage large numbers of inexperienced investors to join the new share owning democracy, it needs to make its share offerings tempting by setting the price low.

Until recently the second argument has tended to prevail over the first, so prompting increasingly acerbic remarks from the National Audit Office, Parliament's watchdog on public spending.

When the flotation of BAA (formerly the British Airports Authority) came along in July, the Government therefore tried an experiment aimed at reconciling its apparently irreconcilable objectives. It offered three-quarters of the company's shares to the public through the usual fixed price offer, but invited the institutions to pitch for the rest of the shares at a higher price through a competitive tender.

The success of that experiment, which secured an average selling price of 290p a share for the tender offer shares compared with 245p in the fixed price offer, has led the Government to take a further step down the same road with the BP offer.

Just over 50 per cent of the shares will be offered at an attractive fixed price to small investors in Britain, with the clearly expressed intention of widening share ownership. If demand is high enough - that is, if the UK public offer is more than twice subscribed - this portion of the offer will rise to just over 62 per cent.

The rest of the shares will go into the so-called international offer. Here, institutional investors in the UK, US, Canada Japan and Continental Europe will tell the Government how many shares they want and how much they are prepared to pay.

According to theory, the institutions will be prepared to bid for the shares at a price not only higher than that of the UK public part of the offer, but also above the price of BP's already-quoted equity.

This extraordinary phenomenon is explained by the fact that the shares, like those being offered to the UK public, are only partly-paid. Institutional investors, it is argued, will value them more highly than the fully-paid variant because the unpaid instalments can be put on interest-bearing deposit. The effective dividend yield on the smaller initial outlay will also be considerably higher.

When all the bids are in, the Government and its advisers will analyse them and decide what price to fix. (The price will be the same for all the shares in this part of the offer). They will also decide quite arbitrarily which institutional applicants are to receive the shares - a decision which will not necessarily hinge on the price which the applicants bid.

It is this last aspect of the international offering which makes it so unusual. It arises for two main reasons.

The first is the one frequently put forward by BP itself in the run-up to the offer. The company argues that it has grown into a major international business with some 80 per cent of its assets overseas, yet only 6 per cent of its shares are held abroad. It makes sense to use the share offering to even out the balance a little, the company argues, and the arbitrary nature of the allocation will enable the Government to manipulate the geographical spread of the equity accordingly.

The second main reason is that it will give the Government a degree of control over the aftermarket by putting the shares in the hands of "friendly", or at least well-behaved, institutions. The Government is anxious to avoid the flow-back of shares from overseas speculators which proved such an embarrassment in the British Telecom flotation three years ago.

So how are the institutions going to respond to this unusual offer?

One point to note is that to many overseas institutions, it is not unusual at all. In the US, for example, public offerings are already conducted more or less along BP lines. The share price is set after discussions with the big institutional investors, in the course of which the allocation among those institutions is also broadly determined: there is no UK-style free-for-all.

As for demand, the Government says that there is a vast unsatisfied appetite for BP's shares among institutional investors worldwide. The company has grown into one of the world's biggest multinationals, the argument goes, but up till now it has been difficult or impossible for institutional investors overseas to acquire enough shares in the company to give them an adequate weighting in the stock.

Just in case there might be any doubts on that score, a series of roadshows have been held across North America, Japan and Europe as well as up and down the UK to help stimulate demand in the issue. The Government's advisers report a favourable response: but it remains to be seen at what price this enthusism will be translated into bids: the outcome of the international offering is not due to be revealed until just before dealings begin on Friday afternoon next week

Richard Tomkins

Brevity made a virtue

THE PROSPECTUS for the offer, to be published in the national press tomorrow, has been kept admirably short given the size of the company and the share offering. It is divided into sections, of which some are of more interest to small investors than others.

Section 1 gives a brief overview of the company and Section 2 describes how the offer is to be conducted. Section 3 then enters into more details of BP's activities: some applicants may be interested to read how these extend beyond its directly oil-related businesses into chemicals, nutrition and mining.

Section 4 gives a brief overview of the oil industry and describes some of the risks it carries. Then Section 5 describes BP's recent financial performance - including the nasty downturn in profits in 1986 - before Section 6, one of the most important in the prospectus, describes the company's prospects.

Sections 7 to 10 comprise the small print and are of little interest to the small investor. But applicants interested in the share bonus scheme attached to the offer should read the conditions in Section 11, and every applicant should study Section 12, which sets out the conditions attached to applications and dealings. Section 13 sets out the conditions in legalisitic terms.

Finally there is an application form for people who have not been sent a special one of their own. This is accompanied by explanatory notes which should be studied carefully.

Note that the last day for posting applications is Monday October 26; the last day for handing in applications at any branch of the National Westminster Bank is Tuesday October 27; and the last time for handing in applications at the 33 special receiving centres in big cities is 10am on Wednesday October 28, at which time the offer closes.

World equity markets have already risen higher and faster than in previous rallies, cautions **William Hall**

A test for the bull market's resolve

DESPITE all the razzle dazzle in the run-up to the BP share offering, it is worth remembering that BP shares are not a law unto themselves, and however optimstic BP managers may be about their company's prospects, the offering comes at a time when most of the world's stock markets are trading at near record levels.

In the UK, the FT-SE 100 Index started the year at 1679 and, while it peaked at 2443.4 in mid-July, it ended the third quarter at 2366 - a rise of 41 per cent. Over the same period the New York and Tokyo stock markets, each of which is more than three times as big as the London market, rose by only slightly smaller amounts. The FT-Actuaries index of world stock markets, measured in US dollar terms, is up by well over a third so far this year and this follows increases of 36.8 per cent in 1985 and 39 per cent in 1986.

While there is no shortage of pundits, particularly in the US, who argue that the world's stock markets can go substantially higher, it is worth noting how far they have risen over the last few years.

The current worldwide bull market is celebrating its fifth anniversary and by historical standards the market has gone higher, and continued longer, than most previous rallies. Goldman Sachs, the New York investment bank, calculates that there has been a tripling of stock market values over this period.

The steep decline in US interest rates - reflected in a drop in US prime rates from 17 per cent in early 1982 to 7.5 per cent a year ago - was a powerful factor behind the explosion in US share prices, and this spilled over into the world's other stock markets as the gap between long bond yields and the return on equities narrowed.

In addition, Wall Street has been helped by a substantial reduction in the number of shares outstanding, caused by takeovers, leveraged buyouts and share buybacks. The Japanese market has been fuelled by a surge in domestic liquidity, while in Europe, at least, the rise in share prices has had more to do with growth in corporate earnings.

However, these factors are now well understood by the markets and Standard & Poor's, the respected US investment rating agency, concluded in a recent survey of the US stock market that share prices are "liberally priced" relative to corporate profits, assets and dividends and noted that the spread between stock and bond yields was "exceptionally wide". Its concern about the level of the US market is mirrored by participants in many of the world's other major stock markets.

Japan is in a league all of its own, and despite frequent predictions that it is grossly overvalued, continues to trade on a price earnings multiple of 50 times current year's earnings, 30 times cash flow and nearly six times book value.

Other markets are nowhere nearly as highly priced as Japan, but by historical standards they are very fully valued. Goldman Sachs calculates that if Japan is excluded, world stock markets are trading on a prospective 1987 price earnings multiple of 16.2 compared with an average of 12.3 between 1982 and 1986. A price to book value of 1.9 times is 27 per cent above the 1982/86 average, and in terms of share prices to cash flow, the current ratio is a third above recent averages.

There is a school of thought that world share prices have been overly cheap in the past, and this is partly borne out by the far less dramatic long-term performances of stock market indices when adjusted for inflation. It can be argued that in an era of lower inflation, there has been a fundamental upwards adjustement in equity valuations, and this factor, taken together with the strength of corporate earnings, is underpinning current share valuations worldwide.

There may be something in this argument, but if you ask many UK fund managers what they think about the general level of stock markets worldwide their answer often seems to depend on which side of the bed they got out of that morning. There are signs of considerable speculative activity, and in some cases speculative excesses, in all three of the world's major stock markets, which should give the small investor some cause for concern.

Meanwhile, there has been a definite upturn in world interest rates recently, which if it persists is likely to dampen enthusiasm for equities. Since the beginning of the year, short-term US interest rates have risen by 150 basis points and long-term government bond yields have risen by 250 basis points and are now hovering close to the 10 per cent mark. European and Japanese interest rates have also been rising in recent weeks.

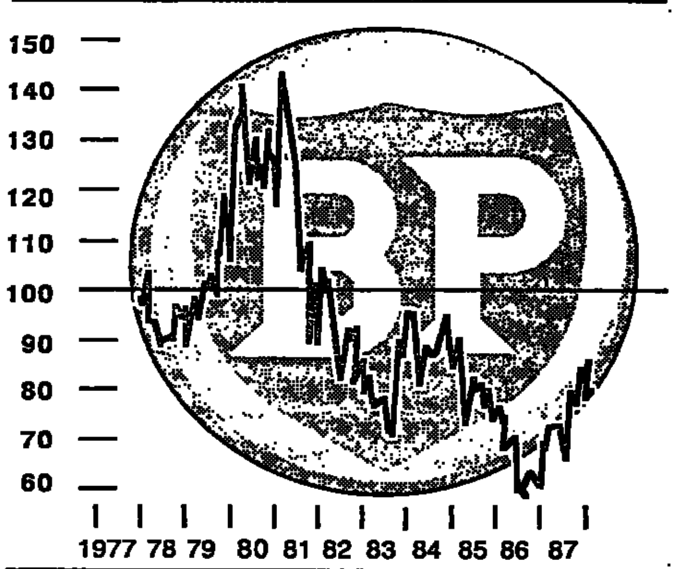
The sympathetic interpretation of what is happening on interest rates is that the world's central bankers are touching the brakes at an early stage, to curb inflationary expectations which have been fuelled by the surprising strength of industrial raw material prices. If all goes well, the brakes will be relaxed next year and interest rates will start on their way down again, which would be particularly good news in the US, given that it will be a presidential election year.

The optimists believe that the strength of commodity prices will be short-lived and merely reflects an overdue reaction to a period when commodity prices were unduly depressed. There are few signs so far that world inflation is accelerating and if this continues to be the case, then it can be argued that the world's bond markets may have been over-reacting and, given the very high inflation adjusted yields on offer, fixed income markets could be due for a strong rally. This would be good news for equities.

Nevertheless, the BP issue itself, underlines another factor which could be a long-term depressant on equity prices. Governments around the world, and other people with assets to sell, have woken up to the fact that there is a sizeable appetite for equities worldwide which has not been fully satisfied.

The British Government unwittingly stumbled on this discovery when it began privatising its nationalised industries, and other countries, ranging from New Zealand to France and Japan, have begun to bring equity issues to the market to satisfy this appetite. Within the next month the world's stock markets will be asked to digest two of the biggest stock market offerings in the history of the equity markets. The BP issue, which will absorb around $12bn, will be followed within a couple of weeks by the Japanese Government's sale of over $30bn worth of shares in NTT, its telecommunications giant. While it would be a brave person who predicted the end of the current bull market in equities, both issues will test the markets' resolve to move substantially higher.

FT-A oils relative to the UK market



A colourful world player

Continued from page one

Whereas 40 years ago, Iran was the jewel in the crown of the company's operations, it is clear that the US has now assumed the role, with the North Sea as a strong second. The 1969 discovery of oil at Prudhoe Bay high above the Arctic circle in Alaska, revolutionised BP's prospects in the world's biggest oil market.

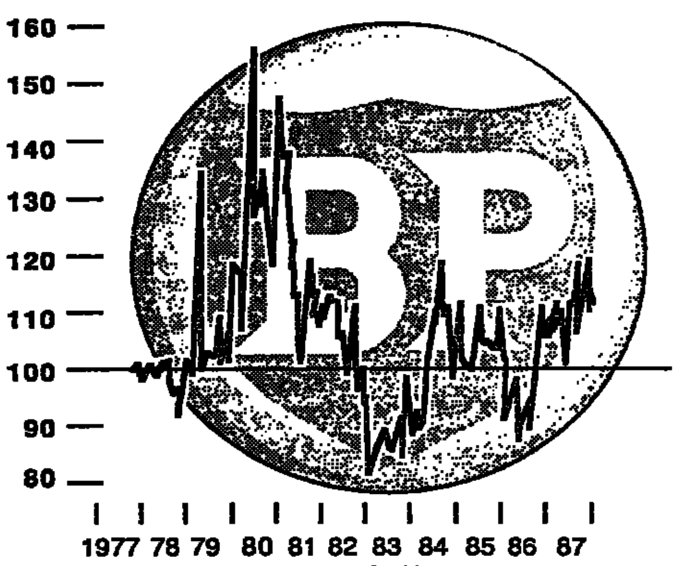
From being a relatively insignificant player it suddenly became the owner of 53 per cent of the biggest oilfield in the US, leapfrogging much larger US oil companies,

In an effort to better utilise its Alaskan windfall, earlier this year BP took full control of Standard Oil, which was the first member of John D. Rockefeller's oil empire. It is the sort of historical footnote which would have made William Knox D'Arcy chuckle.

BP HIGHLIGHTS
1908 First Middle East oil discovery.
1909 Anglo-Persian Oil Company formed.
1913 Abadan refinery completed.
1914 UK Government buys 66.7 per cent stake.
1917 Acquisition of BP marketing organisation.
1927 Oil discovered in Iraq.
1932 Shell and BP form joint UK marketing organisation.
1935 Name changed to Anglo-Iranian Oil Co.
1938 First oil discovered in Kuwait.
1939 First UK oil discovery.
1951 Iran nationalises oil industry.
1954 Name changed to BP.
1965 First gas find in North Sea - West Sole.
1967 Acquisition of Distillers' chemical operations;UK Government stake falls below 50 per cent for first time.
1969 Prudhoe Bay discovery.
1970 North Sea oil discovery.
1975 First North Sea oil comes ashore.
Bank of England takes Burmah's BP shares raising overall UK Government stake to 68 per cent.
1977 Alaskan oil starts to flow.
Sale of UK Government shares
1978 Acquisition of majority control of Standard Oil.
1979 UK Government sells shares.
1980 Acquires Selection Trust.
1981 Standard buys Kennecott.
1983 UK Government sells shares.
1987 Buyout of Standard Oil minority.
UK Government sells its remaining 32 per cent stake.
BP raises £1.5bn

William Hall

Standard & Poor's : US oils relative to the market



Small investors should hold on, says **Richard Lambert**

An issue with a difference

BIG PRIVATISATION issues represent money for old rope. The shares always go to an enormous premium on the first day of trading. And the only risk is that, in the rush for a bargain, you will not be allocated enough shares to make the exercise worth while.

That, at least, is the popular view - and it is based on fact. Shares in BAA closed at a premium of 46 per cent at the end of the first day of trading earlier this year. In the case of the British Airways and Rolls-Royce issues, the gains on Day One were even greater, at 68 per cent and 73 per cent respectively.

However, the forthcoming BP offer is different in two important respects. First, this is not an initial offer for sale. The shares are already very heavily traded in the secondary market, so that the level at which supply and demand meets is well established.

Second, BP as a business is not one of a kind. BAA and Rolls are unique investments, in that there is no other listed airport manager or aero engine specialist anywhere in the world. But the share price of BP has always to be judged not only on its own merits, but also in comparison with the other oil majors. Stockbrokers make a respectable living out of telling their clients to switch from BP to Shell, and back again.

There have been several other secondary offerings in the Government's privatisation, and the record - at least for short term speculators - has been much more mixed than has been the case with initial public offerings like BAA. The second issue of British Aerospace shares, in May 1985, brought a big premium on the offer price after the first day's trading. People who went for the second Britoil offer later in the same year also clocked up a useful short term gain.

But the second and third issues of Cable and Wireless shares, in 1983 and 1985, were very much less rewarding for the stags. In the first of these two sales, the partly paid shares actually closed at a small discount after the first day.

The first big BP sale - by the Labour Government ten years ago - brought big gains for the stags: the shares closed at a first day premium of 23 per cent on the partly paid price. But there were no quick killings to be made out of the second offer for sale, in November 1979, or from the offer for sale by tender of yet more BP shares in the autumn of 1983.

There have been seven big secondary issues of state-owned shares since Mrs Thatcher came to power. On average, the new shares closed at a premium of just over 7 per cent at the end of the first day's trading. That is not quite what the public has come to expect from the privatisation bonanza.

The key to the likely premium in the coming BP offer will lie in the value which the market attaches to the time value of the partly paid shares - a concept which is explained elsewhere in this special section. This will be a much bigger factor than has been the case in other partly-paid issues, because the time-lag between the first and final payments for the shares is very much longer than with other privatisation issues.

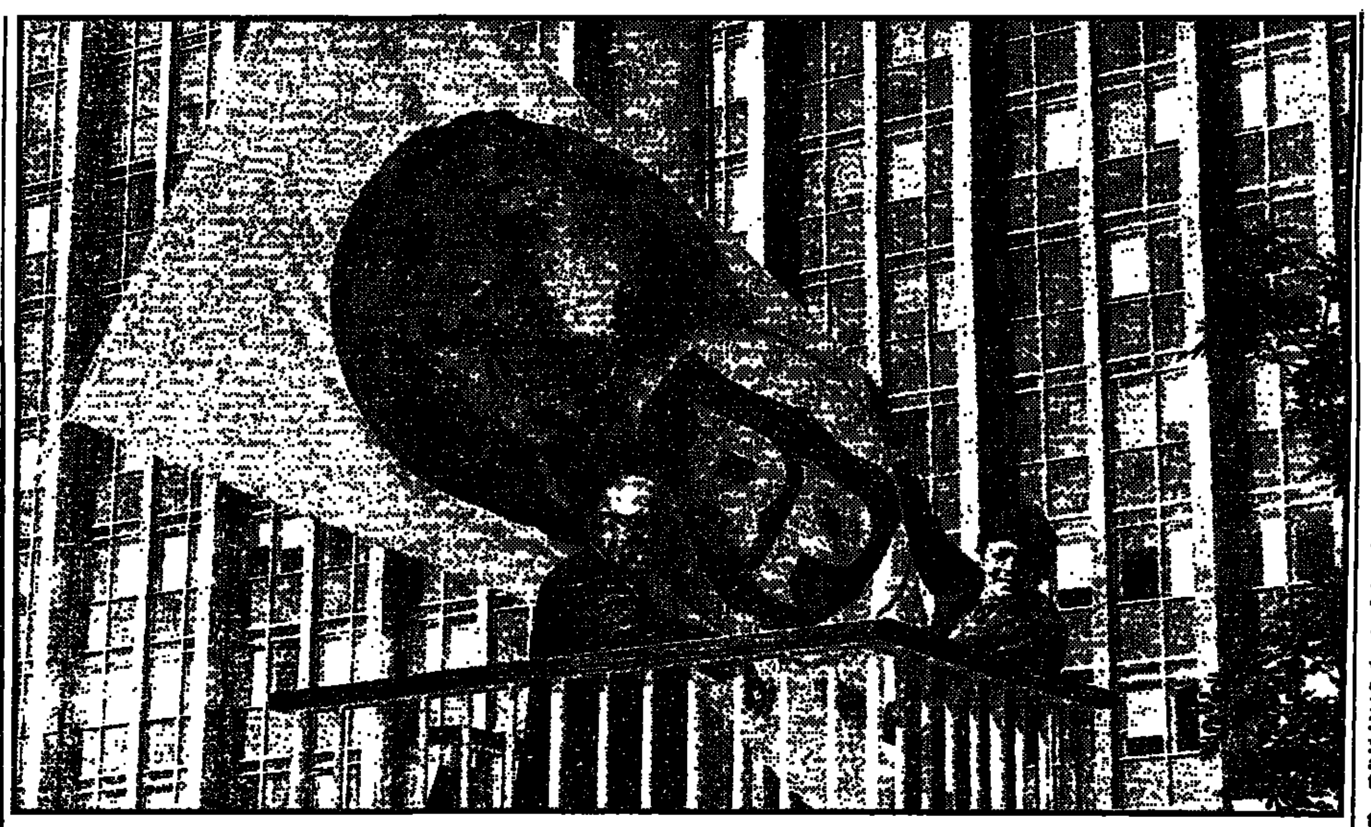
Investors who are interested in anything beyond the very short term have to take another important consideration into account. How are BP shares likely to perform once the blaze of publicity in the run up to the offer has been dampened down? Brokers Greenwell Montagu point out that BP shares have recently been yielding less than Shell for the first time in this decade, which at least raises the possibility that the share price in the secondary market may have been inflated by all the marketing ballyhoo.

Here again, it is worth looking at precedents. In a large number of the cases where the Government has sold shares of companies which are already being traded in the stock market, the short term performance has been poor compared to the rest of the market. To put it another way, if you had bought the shares at the price ruling after the first day's trading and held on to them, you would not have done very well.

Either prices had been pushed ahead too far in the period before the secondary offer, or the market suffered indigestion once the new shares were out of the way.

There are exceptions, such as the 1983 offer of shares in Cable and Wireless, which got off to such a poor start but then produced exceptional returns over the following couple of years. In other cases, such as the Associated British Ports sale in 1984, the shares went through a period of inital weakness, and then showed up very strongly. But in the case of all three BP offers, the shares performed relatively poorly compared with the rest of the market in the months after the sale.

The tentative conclusion is that in issues of this type, you should be ready to hold on for some time if you are not simply out for short term stagging profits. If precedent is any guide, BP's shares are not likely to show an especially dazzling performance in the coming months.



Hoisting the flag: BP's share offer campaign is unveiled outside Britannic House by deputy chairman Mr. Peter Cazalet, and Mr Tony Alt, a director of N M Rothschild & Sons.

Dealing arrangements

Special rates for sellers

IF THE SHARES being sold in BP's fixed price offer go to an attractive premium when dealings begin, it is fair to assume that there will be a heavy sell-off by people who have invested in the issue with the aim of making a quick profit.

N.M. Rothschild, the merchant bank advising the Government on the share offering, guesses that if past experience with privatisations is any guide, possibly 1m people will be at the hustings when dealings begin at 2.30pm on Friday October 30.

Yet applicants who plan to be among them should be aware that they could run into serious obstacles in achieving a quick sale - a factor which has received little publicity in the run-up to the offer.

This is because letters of allotment, telling people how many shares they have been allocated and enclosing a cheque for any refund due, will not be sent out until Monday November 9. Small investors who do not have an established relationship with a broker will therefore find it very difficult to sell their allotment until at least 11 days after dealings have begun.

The same problem bedevilled the British Gas flotation a year ago and brought acrimonious criticism from small investors who felt they were being treated as second class citizens.

Big share offerings are timetabled this way largely for the benefit of institutional investors in the UK and overseas. They are not prepared to tolerate a delay to the start of dealings because every day that passes with their money locked up in the shares increases their exposure to risk.

As explained in a separate article, institutional investors are taking part in a form of tender offer for BP's shares and are expected to pay considerably more for them than private investors. The Government's advisers argue that if dealings were delayed for the small investor's sake, institutional investors would lower their bids to compensate for the increased risk, and the overall proceeds would therefore be much lower. The alternative - to bring forward the posting of allotment letters - is impractical because of the size of the task. If the response from small investors is as great as expected, several million letters of allotment and refund cheques will have to be written and dispatched. Even with the help of computer technology, Rothschild says the receiving banks cannot be confident of achieving the task in less time than has been allowed.

It is difficult to be specific about which people will be able to deal without their letter of allotment. Established clients of stockbrokers should have few problems, and some bank managers may be prepared to lend a sympathetic ear to their more influential or insistent customers. Most people, however, will simply have to wait - and pray for a rising market in the meantime.

Once the letter of allotment has arrived, dealing should be straightforward and fairly economical in spite of recent reluctance among some brokers to deal with small investors.

Few brokers or other intermediaries these days will deal with small investors for a minimum commission of less than £20 plus VAT, if at all. But the Government has made special arrangements with stockbrokers in 17 cities around the UK who have undertaken to accept letters of allotment from small investors in BP at a specified rate of commission.

The rate is £15 plus VAT for deals worth less than £600 and £20 plus VAT for deals worth £600 to £1,200. The names and addresses of these regional coordinators are in the prospectus, and the arrangements apply till April 14 next year.

In something of a coup, the Cheltenham & Gloucester Building Society has also agreed with the Government to offer these special dealing arrangements at all its branches until the end of December, thus achieving some highly desirable publicity and no doubt an enlargement of its customer base.

But perhaps the most attractive dealing arrangement for many investors will be the one to be offered by the National Westminster Bank at most of its bigger branches till the end of the year. NatWest will deal for a commission of 1.5 per cent on values up to £5,000 and 1 per cent on the next £7,500, with a minimum commssion of £20.

Although that minimum is slightly larger than the one offered by the regional co-ordinators and the Cheltenham & GLoucester, NatWest deals are VAT-free. Further, the bank will give you a cheque on the spot which you can put straight into an interest-earning deposit account - an important consideration on larger deals, which may outweigh a slightly lower commission rate.

Families wanting to aggregate their letters of allotment and pay only one commission on the deal will be able to do so at NatWest provided there are no more than five letters and they all bear the same address.

One factor which investors should consider before writing out the cheque for their application is which account to draw the cheque on. If a building society cheque is drawn, it loses interest from the date it is written. A cheque drawn on a bank account, however, only loses interest from the date it is cashed.

Many building societies, worried at the extent to which they have been losing funds as a result of the privatisation programme, now say that investors who draw sums for share applications will not be penalised by loss of interest if they pay all or part of the sums back into their accounts when dealings begin.

This arrangement varies from one society to another, so you should check with your local branch for details.

Richard Tomkins

The wider share ownership drive has had mixed results says **Barry Riley**

New portfolios lack balance

LOOKED AT purely as a numbers game, the Government's drive towards wider share ownership has been remarkably successful.

According to a market research poll carried out by the City public relations firm, Dewe Rogerson, ahead of the BP flotation, and published in August, there are now some 9.4m individual shareholders in Britain. This compares with only 2m in 1983.

Milestones along the route of wider share ownership have included the BT share offer in 1984, which raised the total to 3.2m, while over the next two years the number climbed to 7m after the TSB sale, but before the British Gas offer.

But the depth and strength of this wider ownership trend are open to question. Only about 3 per cent of these millions of shareholders have proper, balanced portfolios of the kind that are recommended in investment textbooks, including ten or more stocks.

Some 56 per cent are reckoned to hold just a single stock, and a further 22 per cent have just two holdings. The sums involved are usually very small.

In fact, the proliferation of small shareholdings appears to have run way ahead of the Stock Exchange's ability and willingness to handle small investors' transactions.

Last month the exchange's chairman, Sir Nicholas Goodison, reflected the anxieties of member firms when he criticised the decision of Mr. Nigel Lawson, Chancellor of the Exchequer, to set a minimum investment level of only £250 in the BP sale.

Other recent privatisations have set higher minima, although in the event scaling down meant that in July's BAA offer, for instance, investors were allotted only a bare 100 shares each, worth only £145 in partly paid form in initial dealings.

In promoting share ownership the Government has some fairly basic political motives. To start with, it is seeking to widen direct participation in the ownership of industry and is succeeding, to the extent that there are now almost as many shareholders (9.4m, and rising) as there are members of trade unions (10m, and falling).

Moreover, it is attempting to encourage financial independence and a willingness among ordinary people to take their own decisions rather than rely entirely on the collective institutions.

- Measures to encourage employee share option schemes, which allow employees to save towards a holding in their company over 5 or 7 years
- The series of privatisation offers for sale, which have specially favoured the individual investor and have usually presented him with juicy instant profits
- The launch of Personal Equity Plans, which provide a measure of tax relief for investors who follow certain fairly rigid rules.

Such measures have their contradictions, however. The growth of employee share option schemes, for instance, may explain why so many investors only own one share.

The PEP scheme has been the least successful of the three policies (though it is admittedly rather early to make a judgment). By last month 165,000 PEPs had been set up, rather less than the Government had hoped for at this stage, and many of them have been established by relatively wealthy investors

So far the Government has declined to emulate the Monory-type schemes which have found favour on the Continent. These plans are more generous in their offer of immediate tax relief on equity market investments, though at the same time PEPs offer rather more flexibility in the eventual disposal of shares.

One factor not directly connected with the Government has also boosted the popularity of share ownership during the past few years - the bull market. After the generally dismal experiences of the 1970s, which disillusioned a generation of investors, the 1980s have made the Stock Exchange appear at times like a place to print money.

But the question is whether the Stock Exchange is an efficient institution though which to trade shares, at any rate in the small amounts that are typical of the deals originated by the newer shareholders.

Many stockbrokers are now putting the shutters up against new dealing clients, partly because they cannot handle the business they have already got and partly because they cannot see how they can make money out of this kind of business.

This attitude poses a serious threat to the Government's plans for a shareowning democracy. Small wonder that Mr. Nigel Lawson hit out at foot-dragging in the City when he spoke to the annual meeting of the Wider Share Ownership Council last month

But until organisations like the High Street banks and the building societies develop the systems to cope with high-volume, low-cost dealing in securities, instead of trying to charge £20 or more per transaction, the shareholder revolution may have to mark time.

Swan Lake/Covent Garden

Clement Crisp

Within a couple of minutes of curtain rise on *Swan Lake* the eye has been assaulted by a whirlwind of manic activity. An old peasant woman has semaphored nothings to her friends; peasants have been busy with bouquets, a pole, dropped baskets, and cushions; the Prince's tutor has bustled about looking like a hyper-active Trotsky. Every single person on stage has been determined to establish character, so that one longs to shout out that sterling theatrical adage: "Don't do something, just stand there."

The orchestra under Isaiah Jackson has, meanwhile, been busy sawing Chaikovsky into convenient lengths to build that unappealing structure which is all they seem ready to make of a flawed but glorious score. The sum effect, amid the baubles and hanging lamps of the setting, is of operetta, and not of one of ballet's enduring classics. This insecure presentation is symptomatic of the stylistic indecision that spoils the Royal Ballet's view of the work. Because there seems no trust in the power of the old ballet to cast its theatrical spell, and no feeling for the passionate drama within Chaikovsky's music (it is dismissed in heartless fashion—and Chaikovsky without heart is not Chaikovsky), the first act with its drunks and flummery is an alibi for a production, a fantasy about *Swan Lake* rather than *Swan Lake* itself.

Thus it appeared at performances on Friday and Saturday which opened the Royal Ballet's season. That matters improve as the evening progresses, is owed to the excellence of the basic dance text and to an increasingly sure appreciation of the ballet's momentum, so that the fourth act is a lyric crown to the evening. But the dichotomy between the clear purpose of the choreography and the mannerist extremes of the staging is no help to leading interpreters, who must seek to impose emotional clarity upon sometimes flustered production.

The first two incumbents of the leading role were Bryony Brind, partnered by Jonathan Cope, and Lesley Collier with Wayne Eagling. The contrast between them is extreme. Miss Collier realises all her potential in performance, knowing exactly what effects she can achieve, supporting them with assured technique. Her interpretation is confident, clear in shape, and at its best, as in Odette's second act solo, commanding. Miss Brind, in an unsuitably extreme make-up, denies her gifts through strain and forced effects, never allowing her naturally expansive line to flower at the service of the drama. Only in the fourth act did we sense something of what her reading should be.

About other aspects of the staging I shall hope to comment as the season progresses. Meantime, praise for the lucid style of Karen Paisey in the first act pas de trois, for Rosalyn Whitten's hypnotic playing of a disappointed fiancee and for her expansive dancing as a swan in Act 4, and for Deanne Bergsma, serene as the Princess at the eye of a storm of mumming. And a hope that Isaiah Jackson may relent some of his brisker tempi: swans are not birds notoriously fast.

Borodin Quartet/South Bank

Dominic Gill

The 70 minutes that I spent in last Thursday evening's monumental traffic snarl-up in Southampton Row (harbinger of the storm to come?) also included the Borodin Quartet's performance at the Elizabeth Hall of the first two movements of their namesake's Quartet no. 1. I was not too disappointed, since the third and fourth movements are far and away the best of that early piece in any case: and in them, as in the rest of their programme, the Borodin themselves were to be heard on their finest, most intimate and lyrical form.

Gone entirely were the marginal jet-lag hesitations of their first South Bank recital two weeks ago; the extraordinary scherzo of Borodin's no. 1, with its unearthly-all-harmonics trio, unfolded like an exotic and richly-coloured bloom, perfectly formed, perfectly voiced. It was a profoundly romantic performance, in the best and most exalted sense of the word, exquisitely coloured, but never remotely overblown, and done without a trace of schmaltz. In the whirlwind accelerando which lights up the closing pages of the finale, most ensembles come slightly unstuck either rhythmically or expressively; the Borodin gave it with sublime unanimity, and absolute precision, every strand in place.

They made of Shostakovich's little first quartet (composed in 1938, later than its numbering would suggest, soon after the fifth symphony) a work of the most engaging lyricism and charm. It's a clever but essentially a slight piece: the Borodin shone a piercing light into every corner of the score, and found many delicate things also, tiny curls of phrase, passing exchanges, inner conversations. After the interval they similarly illuminated Chaikovsky's second quartet — the huge andante is the only movement of the four which can really be called great Chaikovsky: but they gave such marvellous buoyancy to the scherzo, and such weighty and colourful consideration to the finale, that one was tempted to revise all earlier judgments of the music. A memorable recital: it will be seven months before we have the chance to hear them in London again—but then, in May next year, they begin a complete Beethoven quartet cycle.

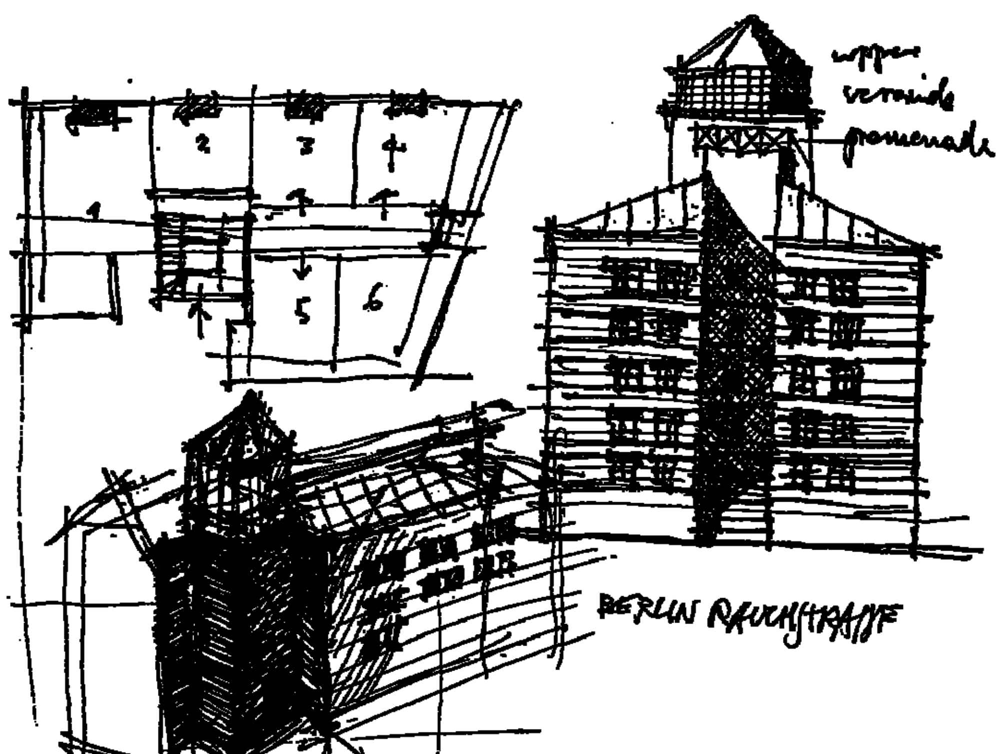
Grants for provincial theatre companies

The Arts Council has agreed substantial grants to four major provincial theatre companies in the North East—the Theatre Royal York (£344,780), the Leeds Playhouse (£368,000), the Tynewear Theatre Company (£379,500) and the Sheffield Crucible (£718,000).

This last figure is the largest single grant to a theatre outside the London area following the abolition of the South Yorkshire Metropolitan County Council.

The grant to the Theatre Royal, York is an increase of £28,000 on the previous year and will enable it to consolidate the development programme started with funds from the Arts Council's *Glory of the Garden* strategy.

The Leeds Playhouse will start building its new theatre later this year. The Tynewear theatre is leaving its present base at the Newcastle Playhouse to set up a trust which will provide repertory theatre at the New Tyne Theatre, Newcastle from late 1988.



Early sketch of Aldo Rossi's housing scheme for West Berlin's International Building Exhibition

Architecture/Colin Amery

Buildings by the Wall

The City of Berlin is not simply 750 years old this year—an event being widely celebrated on both sides of the evil wall—it is also the scene of the International Building Exhibition, in West Berlin.

Germany has a long tradition of important building exhibitions: not just displays about building but actual developments that both illustrate new architectural and planning principles and add to the city's housing stock. The kind of didactic and experimental settlement now exemplified by IBA in Berlin has some very influential predecessors. Joseph Maria Olbrich (1867-1908) established the artists' colony at Darmstadt as the triumphant demonstration of the climax of the Jugendstil in 1899. In 1914, in Cologne, the Werkbund exhibition was an exceptional celebration of the pioneers of modernism.

It was Mies van der Rohe who brought architects as distinguished as Le Corbusier, Walter Gropius, Bruno Taut and many others to build the Weissenhofsiedlung in Stuttgart in 1927. It was in Berlin in 1957 that the "Interbau" promoted the dream of Berlin as the "city of tomorrow." The irony of the claim can only now be appreciated as you look at the isolated blocks, designed to stand in parkland in the old Hansa quarter, by architects like Le Corbusier, Alvar Aalto, Arne Jacobsen, Oscar Niemeyer and Walter Gropius.

The idea of the present *Internationale Bauausstellung* (IBA) goes back to the 1970s and was seen as an answer to the damaging effects of much modern planning, motorway pressure and, of course, the scandal of cruel political division. West Berlin has for any visitor a strange and potent atmosphere. There is the loss of the old centre—the cathedral, the museums, the *Stadtmitte* are all in the East. You can see the old centre at the end of every vista but tantalisingly it is inaccessible. The vile wall is always there, severing the city and parting its people.

No architectural solution and no trick of town planning can heal the political wound but IBA can, and has, begun the process of removing some of the ravages of war and poverty in West Berlin. It was two men—Wolf Siedler and the architect Josef Paul Kleihues—who campaigned to ensure that any building exhibition would be concerned to patch, heal and restore the existing structure.

A bill passed by the Berlin Senate in 1978 to prepare for the IBA is a remarkable social and architectural document. It laid out the aims very clearly—to make Berlin a more attractive city based on its character of polycentricity, historic nature, and the workability of a particular Berlin style of inner city living. The Bill (such a thing would be almost unknown in Britain) stressed the architects' social responsibilities but gave equal weight to their artistic responsibilities. But the key theme behind all the legal and architectural vebiage has been much quoted—IBA was to 'rescue a clapped-out city."

This year it was hoped that some 3,000 new dwellings would be completed and the same number provided by renovation of older buildings. This target has not yet been met. But there is plenty to see that illustrates the intelligence of the new approach. Because it is more difficult to build careful infill and not sweep everything away the redevelopment of Berlin is slow. Despite this the presence of large numbers of invited foreign architects—the use of the international competition—means that Berlin is the place to assess much recent architectural achievement.

As a general view it would be fair to say that most of the new residential buildings in Berlin represents a break with the abstract and technocratic post—stylistically there is considerable variety—the whole range of post-modern architecture is here. IBA itself is not well served by the punk presentation of its exhibition—it is best to walk the city with a good map. The South Friedrichstadt area is a rewarding place to start. Along the Lindenstrasse the housing near the Berlin Museum by Kollhoff and Ovaska springs from an older building and makes a new street following the seven-storey pattern of the past.

"Interventions" by Isosaki and new urban villas by a range of architects set in intricately planned gardens achieve a sense of neighbourhood and a welcome variety of architectural style. Not far away is Kochstrasse, almost at Checkpoint Charlie, is the new housing by Peter Eisenman and Jacquelin Robertson. This has the inevitable cliché of the clashing grids which may sound fascinating as theory but in fact produce an awkward building redolent only of high pseudery.

In the other major area for redevelopment, the southern Tiergarten, on the Rauchstrasse there are nine new residential blocks around a well-designed central garden by a range of architects. The most interesting are the blocks by Aldo Rossi (illustrated above in sketch form), Rob Krier and Hans Hollein. In fact this section of IBA is a good place to witness the imposition of transatlantic and European post-modern notions on to the older urban plan that has been reinstated in this part of Berlin.

The use of an octagonal roof lantern on Rossi's block and its poignant view to the east gives a sense of historical reference; Krier's use of sculpture and curved façade is equally suggestive of a richer past.

From the southern Tiergarten it is but a step to the distressingly damaged diplomatic quarter. Here former embassies are being repaired and improved with schemes by Kurokawa for the Japanese and Portoghesi for the Italians. Around the National Gallery, one of Mies van der Rohe's last works, there are IBA plans for cultural and science buildings.

James Stirling, Michael Wilford and Associates' Science Centre is not yet completed but promises to be one of the most extraordinary, curious and outrageous new buildings in Berlin.

IBA is an extraordinary achievement—it is scarcely fair to attempt to skim over it in one article. The objectives are profound and the results remarkable. It is unfortunate that so many of the new buildings have to parade the thin clichés of post-modernism — out at Tegel, Charles Moore's housing is simply comical—a necessary transition from modernism perhaps but wilfully ignorant of the basic architectural principles of proportion and form.

Large-scale jokes wear very badly. Curious examples of elaborate expressionism on the other hand, like the housing in Luisenstadt by the German firm of Baller/Baller, offer a genuine development of a European tradition.

Berlin offers so many other architectural pleasures, East and West. The restoration of Schinkel's church, the Schauspielhaus and the Huguenot church tower are all encouraging reasons to visit East Berlin.

Girlfriends/Playhouse

Michael Coveney

The sale of 10 penthouse apartments above the old BBC Playhouse in Northumberland Avenue on the Embankment will, it is proposed, cover the costs of refurbishing and re-opening the theatre itself. This New York-style "air space" project was unveiled on Friday night: Howard Goodall's new musical *Girlfriends* occupies the stage where, between the two Wars, Gladys Cooper presented Somerset Maugham's best plays, Alec Guinness made his professional debut, and Nancy Price ran her People's National Theatre.

The BBC leased the place for 20 years: this is where *The Goon Show* and *Hancock's Half Hour* were recorded before live audiences. So most of us must feel an important part of our lives is here. Since 1975 the theatre has been dark.

The facelift provides a pleasant open foyer that is a welcome refuge from the bustle of Villiers Street and the depressing open air cardboard dormitory under Hungerford Bridge. The box office area looks a trifle cramped, as are the two bars, at below-stalls and balcony levels, each adorned with cafe scenes inoffensively executed in Grosz style and Dufuy pastels.

The auditorium itself has been little changed and hardly decorated. It retains what one historian called "a demented vulgarity," an attractive intimacy offset with gilded caryatids and death masks, painted mythical scenes, balconied boxes, and the one extant canvas Act Drop in London.

A perfect setting, in short, for a new musical innocent of technological aspiration. Unfortunately, *Girlfriends* is little more than a jejune musical doodle devoted, for no apparent reason, to the Women's Auxiliary Airforce in the last War. And the best reason for seeing it, ironically in the light of Mr Goodall's well-aired strictures on other West End musicals, is the design.

A new girl joins the hut. Another girl falls in love with a pilot. The pilot's sister is agitated because Phyllis is a black widow, a mark of death. Glaswegian Jasmine carries the can for an underground underwear operation using parachute silk—nicked over the knickers, you might say.

This sombre silhouette of women in dreary uniform has its musical moments when Mr Goodall lets rip with some robust canticles of war, and the girls, led by Hazel O'Connor's aggressive Phyllis with severe blonde hair and a cavernous red gash of a mouth, sing up a storm. But, really, the show is all over in the first 15 minutes of up-beat rhythmic role definition, feminie pluck, would-be masculine muscle-flexing and quaint exercises in radio tuning and spanner wielding.

Mr Goodall's lyrics are honest but risibly dull ("These blooming skirts are far too small—my bottom hurts" or "If they're romantic we're almost there/ And we go crazy for Brylcreemed hair"—the latter example eschewing an obvious internal rhyme with "frantic"). The music is a curious hybrid of anthem, chant and ballad that, unlike the bombers, goes precisely nowhere all evening, with not even an establishing melody to bolster the most interesting side of Mr Goodall's compositional talent, his instinct for re-casting syncopated dance forms (beguine, tarantella, rumba) in a scheme most resembling baroque oratorio.

Kate Young's musical direction is as precise and loyal as it was on *The Hired Man*, Goodall's last sombre hymn to vanished community values. John Retalack's direction is brisk and competent, and Miss O'Connor is admirably partnered by David Easter as the doomed pilot.

But the star of the show is undoubtedly the designer, Wiliam Dudley, who has conjured a misty grey world of looming Hawker Siddeleys, receding runway lights, steel control towers and an elegant arc that combines shadow and substance as an aerodrome outline assuming night-flight mobility. This geometricaly intriguing design, shot through evanescent scrims and Mark Henderson's smokey lighting, comes close to disguising the thin banality of the show itself. But not close enough.

Alastair Muir

David Easter and Hazel O'Connor

Room Service/Leicester Haymarket

Michael Coveney

Room Service at the Leicester Haymarket is the 1937 Broadway farce by John Murray and Allen Boretz that became, with very few adjustments, the Marx Brothers' movie of the same title in 1938. Like *Three Men on a Horse*, the show was one of George Abbott's big screwball stage hits. George Kaufman, in fact, suggested that *Room Service* be re-christened "Three Men on a Script."

An impoverished and unscrupulous producer, Gordon Miller, the Groucho role, is shacked up in a seedy Times Square hotel trying to raise money for a new play. He is also stringing along 22 actors (whom we never see), later locked out of their rooms and thrown out of the restaurant in the middle of the appetiser. His fellow conspirators are the director Harry Binion (Chico) and a goofy gofer Faker Englund (Harpo).

The Haymarket director Keith Hack has cast the energetic, ebullient Gavin Richards as Miller, the explosive and tiny Chris Ryan as Harry, and the emaciated, rubbery Nick Edmett as the seraphic Faker. These three stooges have two notably well orchestrated farce stints: planning a concerted exit without suitcases to avoid detection at the front desk ("Harry, put on three of my suits") and scoffing a room service meal they have hijacked from a Russian waiter in exchange for casting him in the epic, while the hapless playwright recites from his terrible epic.

"I never thought I'd be arrested for writing a play," cries the up-State innocent Leo (Clive Arrindell) trapped in a vortex of deceit, dud cheques and missed deadlines. The trio finally compel him to feign suicide on opening night. The play, of course, is a big hit, the apoplectic hotel manager (John Savident) is placated, and Leo will marry the adoring skivvy (Pamela Moiseiwitsch in the Ann Miller cameo).

Room Service is not one of the best Marx movies—I remember little of it except a classic Groucho lope across the lobby—nor is the play, without impeccable direction, one of the best Broadway farces. Our current fad for this genre is in danger of becoming manneristic and Mr Hack's direction, which runs out of second act steam, is better at achieving overall mood rather than mechanical brilliance.

The wackiness of such incongruous props as a stuffed moose head belonging to Harry ("I ate him up to the neck but drew the line there")and a huge stack of bananas is deeply attractive. And nothing much has changed in the silly business of putting on plays with shakily arranged finance. But the requisite incisiveness of style escapes most of the cast. With the exceptions of Nick Edmett's touching sidekick in a Jackie Coogan cap and orange longjohns, and Christopher Guinee's affecting refugee from the Moscow Art Theatre, they are inclined to fluster.

Still, the evening amounts to a cherishable collector's item, and Douglas Heap's mean-windowed, brownish and tangibly musty hotel room is all too familiar to anyone familiar with New York. I tremble to suggest textual emendation, but might not a harassed doctor's protestation of civic status sound better as "I'm not a dick, I'm a doc"?

'Mr Cartwright's Pictures'

Dulwich Picture Gallery is to celebrate the tercentenary of the bequest to Dulwich College by the actor, bookseller and publisher William Cartwright by showing it in its entirety for the first time.

It consisted originally of 239 paintings, together with prints and miscellanea but only 81 remain: the rest were stolen by Cartwright's wife and manservant after his death in 1686.

The collection contains the largest single holding of the work of John Greenhill (1642-1676), one of the earliest English portrait painters, and includes portraits of the Cartwright family, a self-portrait and a portrait of the then Duke of York, later James II.

Mr Cartwright's Pictures runs from November 25 to February 28 1988.

Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

Music

October 16–22

PARIS

Bruno Canino, piano recital (Mon). Comedie des Champs Elysées (45041215).

Orchestre Colonne conducted by Pierre Dervaux, Gabriel Tacchino, Solist: Villa-Lobos, Gerschwin, Ravel (Mon). Salle Pleyel (45610630)

Marilyn Horn recital, Martin Katz, piano (Mon). Théâtre de l'Athenée (47426727).

Ensemble Venance Fortunat conducted by Anne-Marie Deschamps: Lithurgical play about the three marias (Tue). Saint-Louis en-l'Isle church (43964848).

Orchestre National de France conducted by Rudolf Barshai, Bruno-Leonardo Gelber, piano: Beethoven (Thur). Théâtre des Champs Elysées (47203637).

NETHERLANDS

Amsterdam, Concertgebouw. Alain Lombard conducting the Hague Philharmonic, with Jaring Walta, violin: Bartok, Tchaikovsky (Mon). Recital Hall: Music by Constantijn Huygens (1596-1687) (Tue). The Xenakias Ensemble: Xenakis, Feldman (Wed). Piano recital by Paul Komen: Fauré, Liszt, Messiaen, Chopin (Thur). (71 83 45).

Utrecht, Vredenburg: Hartmut Haenchen conducting the Netherlands Philharmonic, with Frank Peter Zimmermann, violin: Bartok, Tschaikovsky, Schumann (Wed, Thur). Recital Hall: Concert of electronic music: Rai, Lippe, Minjard, Kergomard, Guttman (Tue). Mozart recital by Stanley Hoogland and Glen Wilson, fortepianos (Wed). (31 45 44).

The Hague, Philipszaal. The Netherlands Philharmonic Chamber Ensemble conducted by Antoni Ros-Marba, with Miklos Perenyi, cello: Schubert, Tchaikovsky, Bartok (Mon). (60 98 10).

Arnhem, Music Sacrum. Gidon Kremer, violin, and Martha Argerich, piano: Schumann, Bartok, Franck (Mon). (51 61 91).

NEW YORK

Carnegie Hall: Detroit Symphony, Gunther Herbig conducting with Juilliard String Quartet. Hindemith, Spohr, Beethoven (Tue). (247 7800).

Merkin Hall (Goodman House): American Composers Orchestra. Mixed programme (Tue); Joan Fuerstman mezzo-soprano recital with Frank Taplin piano. Strauss Mahler Chausson (Wed); Boston Camerata, Joel Cohen director. All-Monteverdi programme (Thur). 67th w. of Broadway (362 8719).

Kaufmann Hall: Chamber Music at the Y. Jaime Laredo director, Mozart, Arriaga, Silverman (Tue, Wed). 1395 Lexington Av. (831 8603).

New York Philharmonic (Avery Fisher Hall): Felix Kruglikov conducting, Miriam Fried violin. Brahms, Shostakovich (Tue); Erich Leinsdorf conducting, Jorge Bolet piano, Sibelius, Grieg, Borodin (Thur). Lincoln Center (874 2424).

WASHINGTON

National Symphony (Concert Hall): Tamas Vasary conducting, Nancy Crutcher Tunnicliffe bagpipes. Mozart, Davies (Tue); Fabio Mechetti conducting, Nicanor Zabaleta harp. Debussy, Ginastera, Dvorak (Thur). Kennedy Center (254 3776).

Detroit Symphony (Concert Hall): Gunther Herbig conducting with Juilliard String Quartet. Hindemith, Spohr, Beethoven (Wed). Kennedy Center (254 3776).

CHICAGO

The Academy of Ancient Music (Orchestra Hall): Christopher Hogwood conducting, Stephen Hammer oboe, Catherine Mackintosh violin. Handel, Vivaldi, Bach (Wed). (485 8111).

Chicago Symphony (Orchestra Hall): Pierre Boulez conducting. Boulez, Stravinsky, Bartok (Thur). (485 8111).

TOKYO

Yomiuri Nippon Symphony Orchestra, conductor Heinz Rogner; soloists, Misako Watanabe, Naoko Ihara, Masatoshi Sasaki, Hermann-Christian Polster; with Shin-Yu-Kai Chorus, Beethoven's Missa Solemnis. Suntory Hall. (Mon). (270 6191).

Isaac Stern, Violin; Emanual Ax, piano; Yo-Yo Ma, cello. Beethoven, Schubert. Refugees International Benefit Concert. Hitomi Memorial Hall, Showa Women's College, Sangenjaya (Tue) (580 0111, ext. 3548/3549).

Tokyo Symphony Orchestra conductor. Ilarion Ionescu-Galati with André Isoir, organ. Glinka, Pouleno, Tchaikovsky. Suntory Hall. (Wed) (505 1010).

Dietrich Fischer-Dieskau, baritone. Schubert's Winterreise, D.911. Suntory Hall (Thur). (505 1010).

Rotterdam Philharmonic Orchestra, conducted by James Conlon; piano Michie Koyama. Liszt, Mahler, Tokyo Bunka Kaikan (Thur). (573 3588).

Saleroom/Antony Thorncroft

$2m expected for Gutenberg

The event of the week takes place at Christie's in New York on Thursday when a first edition of the Gutenberg Bible, the first substantial printed book, comes up for sale. It was produced in 1454 and only 48 copies are known to have survived. Most of these are in institutions.

This copy consists only of the Old Testament, but it is in excellent condition. It comes from the collection of the late Estelle Doheny, a famous Los Angeles philanthropist, who was created a Papal Countess in 1939. She paid $70,000 for it in 1950 and Christie's is expecting to sell it for up to $2m. A Gutenberg Bible still holds the auction record for any printed book — the $2.2m paid at Christie's in New York in 1978: but this was for a complete version.

Christie's is disposing of the 15,000 volumes in the Doheny library over seven sales and 20 months. This first offering consists of 136 lots of incunabula—books printed before 1500. The two British books in the sale are both fragments of the first edition of Chaucer's "Canterbury Tales," printed by Caxton in 1477. One, of 65 leaves, should make $40,000.

The highest price of the week, however, is likely to be paid at Sotheby's, New York, tomorrow, when the Porter Rhodes diamond, a flawless stone of 54.99 carats, should attract bids of around $3m. It was discovered at Kimberley in 1880 and considered the finest diamond ever found in South Africa. Previous owners include the second Duke of Westminster and the Maharaja of Indore.

In London at the Sotheby's auction of ballet and theatrical material on Thursday, a costume worn by Nijinsky when appearing as Krishna in Diaghilev's ballet, *Le Dieu Bleu*, should attract bids up to £8,000. It has been sent for sale by Lady Gibson, wife of the former chairman of the Arts Council, and for many years has been on display at the Royal Opera House Covent Garden. It is in almost perfect condition and may be the last of Nijinsky's costumes to appear at auction: most are in museums.

On the same day, in an objects of vertu section, a collection of opera glasses, ranging in date from 1840 to 1900 and in price from £100 to £500, come under the hammer. Accompanying them are fans of the period.

One of the most fanatical of collecting groups are the Royal Doulton character jug fanciers and they will be out in force at Sotheby's sale in Chester on Wednesday when a jug bearing the features of Winston Churchill is on offer. It is very rare—there is no example in the Royal Doulton Museum—and could sell for £7,000.

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Monday October 19

Running for President

IT IS NOT unusual a year before a presidential election for one of the main American political parties to be apparently bereft of clear and convincing candidates, but two is a large number. Normally primary campaigns, intense in one party, serve to sharpen the national focus to the point that even hopeless long shots like Barry Goldwater in 1964 and George McGovern in 1972 acquire a kind of legitimacy that at least commands respect. Sometimes the process elevates rank outsiders to the White House, as with Jimmy Carter, a Southern governor of note but undiscernible in the polls in October, 1975.

History and tradition will probably reassert themselves again in the year ahead in the US, but the double void strains the system. It also makes it impossible not to be apprehensive about the current state of the field. Not only does no candidate in either party appear to stand out on merit and record but it is also unfortunately the case that men and women of quality appear deterred from running, in part by the unattainable standards in public and private lives that they are expected to meet.

The two nominal front runners declared their candidacies last week and both are, at this stage, widely perceived to be very vulnerable. The Rev Jesse Jackson, on the Democratic side, is a controversial figure, but with an acute political sense. However, if his colour were not a bar, which it is, his policies, now very much of the old-style left so badly defeated in 1984, would seem out of step with the times. Vice President George Bush has filled many posts, but curricula vitae unsupported by an independent sense of purpose are generally not enough, as the histories of George Romney in 1968, Edmund Muskie in 1972 and Mr Bush himself in 1980 demonstrate.

Mixed blessing

Mr Bush has a tough row to hoe this time as well. First the Reaganite right, which is very influential at local Republican level, distrusts him; second, his principal mainstream opponent, Senator Bob Dole, is an experienced campaigner, now bolstered by two exceptional professionals from the Reagan Cabinet, his wife, Elizabeth Dole, and Mr Bill Brock, and is possessed of an instinct for the jugular. One small bet would be on Mr Dole doing to Mr Bush what Walter Mondale did to Gary Hart in 1984 by asking the killing question, "where's the beef?" But Mr Dole's acquisition of pragmatic skills since his poor performance as President Ford's running mate in 1976 cannot disguise that he is a man who still has to display a breadth of vision. For both, President Reagan's shadow, now a mixed blessing, looms large.

At least the Republicans have two candidates who can claim some level of national recognition. The problem with the Democrats, who might have held high hopes for next year, is not who is running, but who is not. There are three men of eminent qualifications - Governor Mario Cuomo of New York, Senator Bill Bradley of New Jersey and Senator Sam Nunn of Georgia - who are, for differing reasons, conspicuously staying out of the race. Perhaps one of them, Mr Cuomo most likely, is waiting for a primary deadlock and a draft, but that is not, as six other declared candidates have divined, the usual way to win a nomination.

Among other causes, the absent three do not want, understandably, to endure what they know they would have to endure. This year already, Mr Gary Hart and Senator Joseph Biden have withdrawn because of what amounts these days to "scandalous" behaviour, extra-marital sex and plagiarism respectively; Governor Dukakis's campaign is under a cloud for having implicated Mr Biden; the Rev Pat Robertson has been found not to have practised 35 years ago what he now so piously preaches; Congresswoman Pat Schroeder decided it really was not worth it (having looked at what happened to Ms Geraldine Ferraro in 1984).

The American public has every right, especially given the scale of the problems now facing the nation, to know the characters of those who would lead. But, in this media age, the scrutiny seems to have got out of line with reality. If only the bland, the specious and the blow-dried run, nobody gains, least of all the office of the President of the US.

Posturings in Vancouver

THE Commonwealth Conference in Vancouver last week ended less than harmoniously, as a number of statements, including interviews with Mrs Margaret Thatcher, the British Prime Minister, have testified.

There is nothing unusual in that. Very few Commonwealth Conferences have been conducted entirely in a spirit of sweetness and light and there is a lot to be said for the heads of state and government airing their differences face to face. Nor does the disharmony necessarily mean that Mrs Thatcher was wrong and that the rest of the Commonwealth was right.

Two elements, however, seems to have been conspicuously absent. One, perhaps especially on the British side, was a feeling for diplomacy. The other, more apparent among the rest, was a recognition of the complexities of the problems that many Commonwealth countries face.

Mrs Thatcher can sound more strident than she is, as many people at home have learned to understand. She was also in a strong position. She is opposed to an extension of sanctions against South Africa and recently won her third general endselection in a row. Most Commonwealth leaders accepted in advance that she was unlikely to budge on that issue. Yet there is a world of difference between saying words to the effect; "I won, you lost" and going on patiently to explain why an extension of sanctions may not inevitably produce the desired results of either a collapse of the South African Government or persuading it to seek a settlement with the majority community.

The case for further sanctions is not self-evident. There is very little reason to believe that the sanctions imposed so far have led to the South African authorities becoming more liberal; they may even have had the contrary effect. And when it comes to the front-line states, those countries most affected by the spill-over of the troubles in South Africa, Britain can scarcely be said to be doing nothing to help. It could do more perhaps, but that is for discussion - and discussion of a kind that did not command all that much time in Vancouver.

All those were reasonable points that might have been more reasonably made, more in the way of a diplomatist seeking international order than a politician scoring points. After all, bilateral relations in the Commonwealth matter as well. It is not unduly wise unnecessarily to offend the leaders of such countries as India and Australia, to name but a few, especially when an exercise in tact might have led to a much smoother conference.

That said, it remains impossible not to wonder why a group of countries that has spent so much time over the years trying to deal - on the whole ineffectually - with the problems of South Africa should give so little attention to problems at least theoretically within its domain. Those are legion. The coup in Fiji and its subsequent departure from the Commonwealth are part of them. So are the troubles in Sri Lanka which now amount to civil war. Nearly all Commonwealth members have, or have had, problems of inter-racial disputes within their own territory or just across the border. Many of them are still trying to devise a constitutional means of dealing with them.

That really is what the Commonwealth is, or could be, about. What its members have in common, including Britain, is precisely the inter-racial mix. It is fanciful to suppose that all of them can resolve them by a democratic system of one person one vote based on a multi-party system. Britain has found that difficult enough in Ireland. Canada had its problems in Quebec. There is a case for entrenched clauses, for special statutory provision for minorities and for systems which, perhaps only temporarily, are less than direct democracy and embrace reverse discrimination.

More than any other body the Commonwealth ought to be in a position to look at ways of dealing with inter-racial tensions more harmoniously. Its members know the agonies at first hand. A high level group on such constitutional questions would not come amiss. It would give the Commonwealth some purpose after the unsatisfactory outing in Vancouver. Who knows? It might even have some relevance to South Africa. After all, South Africa's problems are the problems of many Commonwealth states, only writ much larger.

ECONOMIC CO-OPERATION

Mr Baker's dollar gamble

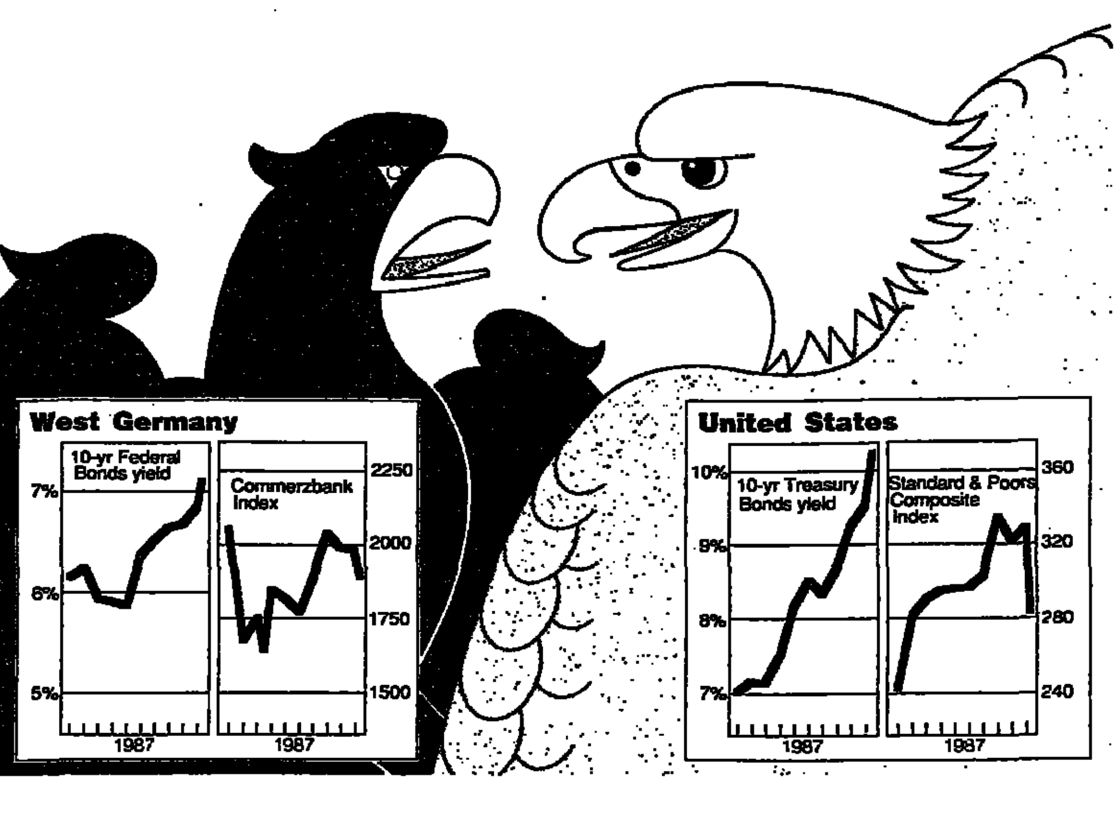
BY ANY standards, it has been an extraordinarily abrupt reversal of US economic diplomacy. Only three weeks after joining with other Group of Seven finance ministers to paper over the cracks in a vaunted effort at international co-operation, Mr James Baker, the US Treasury Secretary, emerged from a meeting at the White House with President Ronald Reagan last Thursday to deliver a stinging attack on the economic policies of one of Washington's closest allies - the Federal Republic of Germany.

Increases in West German interest rates engineered by the Bundesbank were not, he said, "reflective of the spirit of our recent consultations."

Just in case anyone did not get the message, there it was again in Saturday's Washington Post. Alongside a picture of the Treasury Secretary, appeared the words of "a key administration official" denying a report that the US will force the dollar down, but insisting that the US will not follow Germany "into deflation" by raising US interest rates in response to German rates. The report added that the US could tolerate a lower dollar "if the markets took it there" and "if the Germans don't stop squeezing their (economic) growth."

Nor has Mr. Baker confined himself to rhetorical rebukes. The clear implication is that unless West Germany changes course, Washington will let the US dollar fall on the foreign exchanges, a shift which would weaken the competitiveness of West German exports and thus the German economy. Washington is seething at Bonn's refusal to engineer a sufficiently high pace of economic growth at home to help curb the US trade deficit.

Mr Baker is, however, too much the politician to be unaware of the gamble he is taking. Even as he was talking with Mr Reagan, the prime lending rate was rising to 9.75 per cent and the Dow Jones Industrial Average was heading for a fall on the week of 9.49 per cent. If the dollar delines further, that means more inflation.



The gamble is heightened, according to some in the financial markets, by the apparent co-ordination last week between the Treasury and the nominally independent Federal Reserve Board. The Fed timed its interventions in the New York money markets to signal that the sharp rise in the discount rate some Wall Streeters had been advocating to steady the markets, would not be forthcoming - at least not yet.

What accounts for Mr Baker's decision to toughen Washington's stance? In a nutshell, it is growing concern about the US economic outlook and a perception that Washington is getting the rough end of February's Louvre deal, when the group of seven agreed to try to stabilise exchange rates and co-ordinate economic policy.

Since he took office in early 1985, Mr Baker has been trying to engineer a steady reduction in the US trade deficit while maintaining economic growth. As next year's presidential elections draw closer the latter priority bulks larger in his thinking. As he said in a recent interview: "there are three issues in any presidential race: the economy, the economy and the economy."

In the past few weeks, Mr Baker has seen some very disturbing trends in the financial markets. The rise in share prices which has been helping the economy grow has gone into reverse as interest rates in the US have risen sharply. Apart from climbing long bond rates (see chart), politically sensitive mortgage rates are heading for the 12 per cent mark.

At the same time, the expected improvement in the US trade deficit appears to have petered out. In the third quarter, preliminary indications suggest the higher trade volumes which began late last year and which have helped to boost economic growth in 1987 have faded. Washington has been counting on export-led growth to keep the US economy expanding around the 3 per cent rate next year.

In these circumstances it is easy to see why Mr Baker is frustrated. He finds himself defending a relatively fixed dollar exchange rate, which looks increasingly like it needs to fall further (especially in real terms). He is suffering the added burden of higher interest rates, something which adds to the debt problems of the Latin American countries which are important US export markets. At the same time he faces an ally, West Germany, whose reluctance to grow faster he sees as another threat to the continuation of US economic expansion.

He is well aware too that in both Germany and Japan, as well as on Wall Street, America's prospects of correcting a huge trade and current account deficit without a recession to squeeze domestic demand, are being increasingly discounted.

There is thus a concern in Washington that Bonn, by tightening its monetary policies and so helping to push US rates higher, is in effect forcing the US to accept the economic slowdown which some offiicals in these countries are saying is needed to begin to reduce the trade imbalance. "Baker is saying we are not going for this option," says one top policymaker in Washington.

He concedes however that the US is not well placed to resist these pressures. It is in the position of depending on foreign capital to keep its economy expanding. And it is in the US that inflationary pressures are the most intense and where policymakers' room for manoevre is most constrained.

It is around judgements about inflation that the economic policy debate now revolves.

Both Mr Baker and - to the dismay of the markets, given their inflationary fears - Fed officials are insisting that, as Mr Baker put it last week, "inflation is under control."

With the financial markets increasingly questioning whether the Fed under Mr Alan Greenspan will indeed be prepared to risk recession to fight inflation, it is not surprising that some European policymakers are sceptical. As one European monetary official remarked last week about the potential cost of supporting the dollar: "we do not want to import that much inflation to do it."

Predicting the outcome of the Treasury Secretary's new initiative is hazardous, however, for much will turn on how the world's financial markets react over the next few weeks. A lot of money has been lost this year by people who guessed wrong.

Stewart Fleming

"A stronger D-mark may not be a catastrophe"

THE WEST German Finance Ministry and the Bundesbank, the constitutionally independent central bank, face a high-wire balancing act in future months which will stretch nerves not simply in the twin decision-making centres of Bonn and Frankfurt.

Mr Baker's irritation at the Bundesbank's interest rates policy may be just a foretaste of trans-Atlantic strains to come.

On the one hand, the monetary authorities want to dampen undue upward pressure on the D-Mark - both against the dollar and currencies in the European Monetary System (EMS) - in order to protect West German exports.

This requirement is undoubtedly given greatest weight by the Finance Ministry: Bonn is most responsive to the political risks at home and abroad of a fresh climb in the D-Mark. Apart from a storm with the Americans, they include a further rise in 2m-plus unemployment and the possibility of another EMS realignment before next spring's French presidential elections.

On the other hand, the Bundesbank wants to start tightening its present expansionary monetary policy, to tone down traditional German worries about resurgent domestic inflation. The faction favouring such a tightening within the 18-member Bundesbank policy-making council appears to have grown stronger in recent weeks.

The dilemma for the West Germans is not a new one. But in view of the current delicate state of both the domestic and world economies, it is particularly acute.

For 30 years, under both fixed and floating exchange rates, the Bundesbank has struggled to steer a middle course between the often conflicting goals of domestic and external monetary stability. With the notable exception of the extreme D-Mark weakness at the beginning of the 1980s, the German currency has been under almost continual upward pressure.

In the last resort, the Bundesbank has always played true to the "stability first" creed inscribed in its founding statutes, allowing the D-Mark to appreciate in the belief that the anti-inflationary effects of currency revaluation would outweigh the problems for export competitiveness.

Now the view is gaining ground that the Bundesbank is moving - albeit hesistantly - towards tightening credit policy. Partly because of the split within the Bundesbank's council over the advisability of higher interest rates, the central bank is pointedly allowing market psychology to drive short-term interest rates higher rather than taking clear-cut action itself.

Worries about higher inflation in the US and the Bonn Government's clumsily-handled decision to bring in a 10 per cent withholding tax on domestic bonds and savings from 1989 led last week to a rise in interest rates at the longer term end of the market.

The Bundesbank believes that, although the withholding tax may be justified on the grounds of tax efficiency, its timing was highly unfortunate. Mr Karl Otto Poehl, the Bundesbank president, has criticised the measure on the grounds that it will drive up borrowing costs.

The risks of higher interest rates have to be weighed exceptionally carefully.

Mr Poehl is playing down the present roughly 8 per cent annual rise in the Bundesbank's money stock (its yardstick of money supply) compared with a 3 to 6 per cent target. He believes inflationary dangers are subdued, and any significant interest rate rises could merely bring in destabilising "hot money".

Prices will be rising by no more than 1 per cent on a year-on-year basis by the end of the year, although the trend may accelerate to 2 to 3 per cent by the end of 1988.

Mr Poehl's deputy, Mr Helmut Schlesigner, who heads the opposing faction on the Bundesbank council, takes a more orthodox monetarist view. He does not deny that higher money supply will feed through into higher inflation. But both he and a number of other conservatives on the Bundesbank's council are worried about the long-term risks.

By building up public belief in the efficacy of the money stock target to keep down inflation, the central bank runs the risk of itself encouraging a much-feared "inflation mentality" if it now decides to ignore two years of overshooting.

A breakdown of the Louvre currency agreement and a further fall in the dollar would certainly hit West German business confidence, which already suffered from last year's dollar decline - a principal factor behind this year's slowdown in economic growth to a probable 1987 rate of no more than 1.5 per cent.

In view of the country's high dependence on exports (making up one third of gross national product) the Bundesbank likes to point out that any dent in exporters' confidence quickly works through to depress the whole economy; its ability to suck in imports declines and the reduction of the trade surplus slows.

But, with the shock of last year's dollar decline past, German industry has shown itself competitive enough to live with a dollar around DM1.80. Export orders this summer have been recovering, and the country's current account surplus, benefitting from continued cheapness of imports, will fall only slightly in 1987 from last year's record DM80bn (£26.6bn).

A clue to what happens next may therefore come from one Bundesbank council member - by no means a monetary hard-liner - who says, "a stronger D-Mark against the dollar would not be a catastrophe."

David Marsh

Men and Matters

CARDIFF, OCTOBER 18

A long way for Walker

Last Tuesday Peter Walker found himself in Cardiff's St. David's Hall launching the 800th anniversary celebrations of the journey through Wales of Giraldus Cambrensis, cleric and scholar. It must have seemed to him a long way from the time he was piloting major legislation like the reorganisation of the water industry through the Commons.

If he had any such thoughts, he kept them to himself. Walker appears to have taken to Wales like a duck to water. Hearing of his appointment last June, after the election, people in Wales thought that the last wet in the Cabinet had been put out to graze in the wettest part of the Kingdom. There were rumours that he would sit in Gwydr House, home of the Welsh Office in London, and enjoy the incomparable view down Whitehall, commanding, as it does, a bird's eye view of the comings and goings in Downing Street.

Walker has confounded critics. He brought his family to Cardiff for a couple of days in the holidays to do the usual tourist bits and has since been assiduous in pursuing the minutia of ministerial work. No chore appears too trivial; he may not be the political flavour of the year in a country that leans even more to the left than himself but he is respected for his openness and approachability.

The odds on his succeeding Mrs Thatcher may have lengthened since his arrival in Cardiff, but Wales gives him one inestimable advantage over most of the others that could prove useful when the crunch comes. The Secretary of State for Wales, like his Scottish counterpart, sits on all the important Cabinet committees. More than most ministers, Wales knows exactly what is going on. It could be useful sometime.

"Must be difficult for Peter Walker as an Englishman - he'll soon have to learn Japanese as well as Welsh."

Black ties

The crachach of Wales, known elsewhere as the *creme de la creme*, will be out in force in Cardiff on Wednesday night - black tie *de rigeur* - to help the Principality Building Society celebrate breaking through the £500m asset barrier.

Brian David, the chairman and a former timber importer with local concern Robinson David, will welcome the great and the good in the city, including Sir Idwal Pugh, one-time permanent secretary at the Welsh Office, Sir Alun Talfan Davies, Sir Donald Walters, of Chartered Trust, who is heading the body merging the University of Wales Institute of Science and Technology and University College, Cardiff, and Ian Kelsall, the CBI's director for Wales.

'The evening is rather more than just noting a major achievement by the society,' says John Mitchell, its Yorkshire-born chief executive who admits to being Welsh by adoption in all matters except cricket, where he carries an undying loyalty for the white rose.

'It is an acknowledgement that Wales is a good place in which to do business and that Cardiff is growing as a financial centre. This is a very exciting city in which to be working and the Principality is contributing fully to that growth.'

It is impossible to compare the Principality's asset base with the other societies, since they do not publish separate statistics for their Welsh operations. The Principality certainly has the largest number of branches of any society in Wales though it is probably behind both the Abbey National and the Halifax in mortgage lending.

But in one important field it is well ahead of all its competitors. It has the prettiest girls behind counters. 'Everyone comments on it,' says Mitchell shyly. They are more than pretty faces, though. Mitchell says they are the best salesforce a society could have.

Outsider deal

Those who like to be in the know about what is going on are getting worked up about who will succed Malcolm TYhomas in one ofthe plum jobs. Thomas is coming up for retirement as chief executive of the Bank of Wales and the guessing-game over his successor is in full swing.

Observer can offer a clue: the answer lies outside the Principality.

Thomas, who has passed the normal retiring age, goes as soon as the new man moves in (though he stays on the board in a non-executive capacity). And the Bank of Scotland, which through its 75 per cent shareholding now controls the Cardiff-based bank, founded by the irascible Sir Julian Hodge, has made it clear that the bank should look outside its own portals, which will dash the hopes of those who have been pushing for an in-house appointment.

The new man will not come from Edinburgh. The odds are that he will come from one of the high street clearers or the like, and be in his late 40s. An Englishman to head a Welsh bank owned by the Scots. All should be revealed, as they say, after the next meeting of the bank's board on November 5.

Bottoms up

If Robert Ellis, of accountants Touche Ross, has the footballers' anthem, 'Ere we go., 'Ere we go,' engraved on his memo pad, he can hardly be blamed. For the past nine months he, with his colleague, Stuart Lindsay, partners in the Cardiff office, have been administrators of Newport County Football Club, now bottom of the Football League. Ellis, whose sport is golf rather than soccer, was called in in February in a desperate attempt to keep the club alive. Saddled with debts of over £500,000 and faced by an intractable Inland Revenue that wanted paying in full as a priority, Newport looked to be on the way out.

Now, however, he is about to be relieved. The court has agreed that the administration order can be lifted on October 30. After that, the club's affairs are back in the directors' hands.

'Our first task, when we moved in,' Ellis says, 'was to stop the day-to-day losses and we spent a lot of time going through the books. Newport had a good Lifeline scheme and a useful lottery and we organised a lot of things, such as dinner-dances, to raise money.

'This season we should see the club in the black and most of its debts repaid. I just hope the club starts to climb the ladder. It would be a pity to see it drop out of the Football League after all the effort.'

Highlight of the stint was a visit to Everton, whose chairman, Philip Carter, also heads the Football League. 'What a difference. They have a commercial staff of 76 alone.'

Observer

Norway's financial standing is under threat. David Lascelles and Karen Fossli report

Bankers against the kingdom

ANY DAY now, a major international banking row is likely to erupt over the *Norwegian Government's* handling of the so-called "Kongsberg affair", a saga of truly Nordic proportions.

The matter might be of only local interest were it not for the *involvement of* 33 foreign banks, several of which are threatening to turn it into a test of Norway's international credit standing. Some bankers have already likened it to last year's tin crisis, when governments were accused of failing to honour their financial obligations.

The affair centres on Kongsberg Vaapenfabrikk (KV), the state-owned Norwegian defence contractor and jet engine manufacturer which came *to the* brink of collapse earlier this year owing $409m (£248), including $240m to a group of foreign banks. These include the two UK merchant banks, Samuel Montagu (part of the Midland Group) and Kleinwort Benson; Banque Belge, Kansallis Osake Pankki, Creditanstalt, Sumitomo Trust and even the Bank of China.

The issue at stake is whether the Norwegian Government has *a duty* to bail out KV. But the affair has become snarled in the politics of Norway's centre-left minority Labour Government. The manner in which the Oslo authorities have attempted to reorganise KV has also brought charges from foreign bankers that the company has been made into an almost worthless shell before they have recovered their assets.

Kongsberg's troubles are deep-rooted. It has been in the *red for eight of the last nine* years. However, until recently, Kongsberg's foreign bank creditors happily assumed their loans were guaranteed by the Norwegian Government.

This assumption was based on *a number of points. The* Norwegian Government appointed Kongsberg's directors and approved its accounts. It has also made large injections of new capital to help the company meet its commitments to supply equipment both to Norway and NATO allies. The last time this happened was less than a year ago when KV received NKr200m to cover operating expenses while the Government assessed what it actually owed.

The Ministry of Industry also approved KV's budgets and accounts. But above all, bankers assumed that the Kingdom of Norway would not allow its name to be tarnished by the *failure of such a prominent*, state-owned organisation to meet its debts. This was despite the fact that the Norwegian Government had never issued written guarantees or made legally enforceable commitments. *Kongsberg itself is a joint stock* company with limited liability.

The situation has been complicated by the fact that Kongsberg, in collaboration with Toshiba of Japan, stands accused of selling sensitive military equipment to the Russians and *has been temporarily* barred by the US from supplying the Pentagon. This would have hurt the KV defence division, which had a development contract to supply the US Navy with the Penguin helicopter-launched missile.

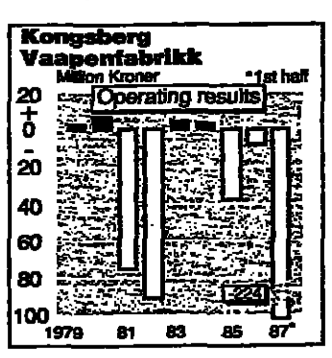
After failing to secure another capital injection of NKr500m from the Norwegian Government in December, by May Kongsberg could not service its debt. It tried again but failed to *get more capital* from the Government.

The Norwegian Government had three choices; it could bail Kongsberg out, but this was politically difficult when it was trying to wean state companies *off subsidies*; it could allow Kongsberg to go bankrupt or it could arrange a "composition" under which Kongsberg would be reorganised and given fresh capital in return for an agreement by the banks to write off *part of their loans*.

Mr Karl Glad, the forceful chairman of Kongsberg brought in by the Government last year, favoured bankruptcy because it was the cheapest solution and would have put an end to the Government's embarrassment over the Russian equipment sales. But the Ministry of Industry recommended composition because this would enable the existing board to remain in control. This was approved by the Storting, and a lawyer, *Mr Jonas* Myhre, was appointed to head a committee to thrash out the terms.

This was the first major setback for the foreign creditors *because at this stage it became* obvious that there would be no bail out. But after composition proceedings began in June, the Ministry of Industry arranged for the sale of Kongsberg's jet engine division, the group's largest loss maker, to a consortium consisting of three Norwegian companies and the US-based Pratt & Whitney, whilst keeping a one-third share for the state. Snecma, the French jet engine maker, also has a 10 per cent option. This sale netted NKr30m; bankers suspect that KV went cheap.

Next, Norway set up a new state-owned company, Norwegian Defence Technology (Norsk Forsvarsteknologi or NFT) to which it transferred



In their anger, bankers describe the episode as a shameful reflection on Norway's NATO obligations

Kongsberg's defence business. This was intended as a temporary arrangement, to be financed by regular payments from NFT to Kongsberg. However, *when Kongsberg's customers* balked at dealing with a "paper company," the Government went back to the drawing board. Now, an outright sale of Kongsberg's defence interests, valued at NKr600m, is being negotiated *instead. But this will require* the Storting to agree a further appropriation, as well as additional defence funds for the NFT purchase of KV's outstanding contracts. It is also unclear whether the Pentagon ban would extend to NFT.

Karl Glad, Kongsberg's chairman, is, says one banker, "wearing too many hats." Now the banks are to consider challenging Mrs Gro Harlem Brundtland's Government in the courts.

The sale has left Kongsberg with little other than minor subsidiaries and large debts, supplemented by a NKr300m sum voted by the Storting to settle the banks' claims, and a small amount of cash. Mr Myhre's composition committee has been trying to tot up the residual value of Kongsberg to calculate a pay-out for the banks. But this has been confused by the fact that the Norwegian Government is both owner and a creditor of Kongsberg, and has been sitting on both sides of the negotiating table at once.

The bankers' original hope that they would get back 60 or 70 per cent *of their loans has* now been sharply reduced. The latest offer is 40 per cent, a figure which bankers consider outrageous.

The composition committee says that it could be weeks be*fore the banks have completed* calculation of their claims and the valuation of remaining KV assets. In a final attempt to salvage more from Kongsberg, last month the banks offered to write down their loans by 35 per cent and to reschedule the re*maining debt on condition that* the Norwegian Government makes a fresh contribution. But the Ministry of Industry, which was annoyed by the banks' refusal to entertain a similar plan earlier this summer, said the offer was *unacceptable politically* because it involved new money from the Norwegian side.

Bankers now say that, however reluctantly, they will accept the composition agreement, since the only alternative is to seek Kongsberg's bankruptcy. The composition committee last week duly approved the sale of the old KV defence division to the new NFT company. At the same time, the banks are preparing for the next stage of their strategy - in the courts.

The official announcement of the 40 per cent settlement is due tomorrow, the day that Mr Glad has said that Kongsberg will run out of money completely. At that point bankers can be expected to issue a sharply worded statement, condemning the Norwegian Government's handling of the affair. Lawyers have already been engaged to study grounds for sueing the Government and other likely parties either through the Oslo courts or abroad. Once the composition is complete, KV itself will become a paper company with zero assets and zero debt.

One of the many ironies of the *affair is that Kongsberg's* bank creditors include the Helsinki-based Nordic Investment Bank (NIB), which is owned by the Scandinavian governments, including Norway, and whose president is Mr Jannik Lind*baek, himself a Norwegian. If* the NIB has to write off its Kongsberg loans, not only will it mark the bank's first loan loss in its 12-year existence, it will also mean that the Norwegian Government is refusing to honour our loans owed to itself.

Bank *creditors have also* pointed to the curious position occupied in the affair by Mr Glad. He is not only chairman of Kongsberg, but also chairman-designate of NFT, the company which has taken over Kongs*berg's defence business. In ad*dition, he has just stepped down as deputy president of Aker Norcem, which is a member of the consortium which bought Kongsberg's jet engine division. "Mr Glad is wearing too many *hats*," says one banker.

However the main question that arises is whether the affair will leave a lasting stain on Norway's financial reputation. Since the Kongsberg affair at least two rating companies have lowered Norway's credit rating. One of them has cited the KV affair as the reason. The relationship between the Government and other subsidised companies which have international credit has begun *to worry the banks*.

Bankers see the episode as a shameful reflection on a modern industrialised country with obligations to Nato for the proper conduct of its defence business.

The bankers have to concede, however, that their assumption that lending to Kongsberg was as good as lending to the Kingdom of Norway was misplaced. There is no solid documentary evidence to support it - only precedents *involving* other state-owned concerns, and statements by Norwegian officials about the importance of the defence industry. Whether these stand up in court may well be the next test.

On this page in the issue of October 16, photographs of Mr Noboru Takeshita and Mr Shintaro Abe were transposed. We apologise for the error.

Lombard

The fallacy of means testing

By Michael Prowse

IN A RECENT speech on the *welfare state, Mr John Moore*, Social Services Secretary in the Thatcher Government, attacked the "indiscriminate handing out of benefits". One of the Government's priorities, he suggested, should be to "focus help more sharply on people in greatest need". The use of innocuous words like "target" and "focus" should not mislead: Mr Moore is a means-tester of the old school. In his book, you should get no help from the state unless you are prepared to prove your poverty.

To be fair, in advocating stricter means-testing, Mr Moore is not really saying anything radical. He is probably moving only slightly ahead of popular opinion. Means-testing is a concept that is very much in tune with the Thatcherite 1980s. If you focus benefits more sharply, less people will get them. If less people get them, the social security budget *will shrink. If* that happens, we can all have more tax cuts. If we have more tax cuts, we will all work harder. And if we work harder, we might one day be as rich as the West Germans.

The desirability of stricter means-testing (sorry, the sharper focusing of benefits) is thus as self-evident to a Thatcherite as one of Descartes' axioms. The policy can even be sold as *egalitarian. Why*, ask the true believers, should the rich yuppie couple with kids qualify for child benefit? Why should the Duke of Westminister be promised a state pension at the age of 65? If cash were not thrown *away in this fashion, runs the* argument, we could afford to do so much more for the really destitute.

But is the present indiscriminate handing out of benefits (to use Mr Moore's phrase) really so stupid? Are motherhood and age really silly criteria for special payments? The answer depends partly on one's view of society and human nature. It is hardly cynical to argue that the wider the availability of benefits, the greater the chance their real value will be maintained. More positively, universal benefits, like other non-discriminatory policies, can play a useful *unifying role, the value of which is hard to quantify.*

They help combat a "them and us" attitude : nobody feels the slightest shame in drawing child benefit or a state pension. Indeed, quite the contrary : they can be claimed with pride, almost as a badge of citizenship. It is important that they do not have to be argued for or justified. They do not carry with them the label "disadvantaged". They do not give bureaucrats carte blanche to pry into your affairs.

In an age obsessed with "incentives", it is perhaps worth stressing that universal benefits neatly sidestep the "poverty trap" pitfalls of means-testing. If *a benefit is progressively with*drawn as your income rises, it will obviously tend to hamper your emergence from poverty. When Mr Moore urges more sharply focused benefits, he is thus simultaneously urging the creation of work disincentives. He wants the poor to clamber to prosperity under their own steam, yet he threatens progressively to penalise their efforts at self-betterment.

Universal benefits are obvi*ously desirable. The impor*tantquestion is whether we can afford them. Clearly, we can : we have in the past and GNP, as Chancellor Lawson periodically reminds us, is rising rapidly. But quite apart from financial *considerations, a benefits sys*tem with a strong non-discriminatory strand is perhaps something that we ought to want to afford. One of the dangers of Thatcherism, which will become increasingly obvious as its *focus shifts from economics to* social policy, is its excessive emphasis on individualism.

It is hardly an exaggeration to say that people are now being taught to resent paying for anything from which they will not derive personal gain. If one has no children, it is Thatcherite to resent paying taxes to finance the education of other people's children. If one does not like museums, it is Thatcherite to resent financing other people's pleasure. If we had any real sense of community, we would not want to reduce the social security system to a cheap, means-tested rump.

Letters to the Editor

Wider share ownership

From the Chief Executive, New Bridge Street Consultants.

Sir, - Your supplement on buy-outs (October 14) referred to the wider share ownership reasons for including employees. But there are also more commercial reasons for the growth in the "management led employee buy-out".

It is easy to understand the scepticism of those employees for whom the managers have for so long been "them" to "us" on the shop-floor, when managers suddenly announce that they have also become the owners of the busines. Such scepticism can harden if the deal for employees is that if they work harder/flexibly, they will keep their jobs and make the managers rich! How much better to be able to say: we will all work harder flexibly so that we all share the risks and the gains. Vendors and institutions increasingly recognise this factor.

Two techniques solve the obvious problems. Speed and confidentiality are not problems if a special employee trust takes the employee-reserved equity at completion, without any prior communication to employees. The offer to employees is then made with any unsubscribed equity taken back by the investing institutions. The apparent low value of the equity available to employees can be expanded by including preference shares in their offer. Provided the employees get more ordinary shares per preference share than the "hard-headed" institutions get, it is not difficult to sell the offer to employees. Experience to date suggests that employees actually do prefer some preference shares, and over-subscribe well balanced offers.

The prize is a workforce that is as committed as thed managers to *making* the buy-out a success. We lag behind US practice, where the recent $1.75bn Avis buy-out by an all-employees ESOP leads the way. But if we too "try harder", we can catch up and maybe even teach the Americans a thing or two.

Laurie Brennan
30-34 New Bridge Street EC4

A duty of care

From Judith Lyons

Sir, - Are there any plans afoot for the winding up of any licensed dealers or stockbrokers in the week or two following the BP issue?

Just before Christmas last year, four days after the British Gas flotation, the Department of Trade & Industry applied to Court on an ex parte petition to *wind up Prior Harwin Securi*ties. Prior Harwin was licensed by the DTI, and by FIMBRA, and was advertising heavily in the quality press to attract the numerous small investors. I represented about 300 such small investors who sold their share allotments, bona fide, to Prior Harwin, and found themselves indirectly funding the winding up. Yet the company was very popular, charged no commission (making their profits on a quick turn round, as principal), and according to the evidence was solvent on book values, marginally insolvent on "realisable values" with over £950,000 in the bank at the date its assets were frozen. There was no hint of fraud.

Did not the DTI owe a duty of care to these hundreds of people, enticed by the massive advertising of the "Sid" campaign not only to buy but also to make a quick and easy profit, just like high value city investors? The company had been investigated since August 1986, yet the DTI *states that it acted as soon as it* had sufficient evidence. Is it not more likely that it petitioned in panic after accusations of delay in the winding up of City Investment Centres (share shops) where there was no money left *at all for the many small ordi*nary investor creditors, and in Financial Management Services where there was also no money left.

The message is clear: either have an effective licensing sys*tem with concurrent compensa*tion, or don't license dealers. There is clearly a need for a secure way of trading in high volume low value share deals.

The Financial Services Act compensation provisions were *not and are not yet in force.* A parallel would be the licensing of car drivers without compulsory insurance.

Judith Lyons,
3a Burton Court
Franklins row SW3

Nightmare with a PC

From the Head of Export Services, London Chamber of Commerce

Sir, - Observer's journalist friend (Men and Matters, October 13) ran into his Customs nightmare taking his PC into Italy primarily because he clearly had no Customs documentation at all. To ease the bureaucratic agony he experienced he ought to have carried a Community "T" form, to complete fairly simple export and import entries in Germany and Italy (European Community), with the additional benefit that Switzerland (EFTA) accepts the "T" as a transit document. From January 1 next, the new Customs' form SAD (single administrative document, although the French are already calling it le document triste!) will perform the same function.

Alternatively, if he were in fact entering the PC only temporarily into Italy and intended to return it later to its starting point, his real "easy passage" solution would have been the ATA carnet. This remarkable no-fuss document (provided by this and other major Chambers of Commerce) is a set of tear-off vouchers taken by Customs at each in and out stage, including transits. It is widely known as "passport for goods" and is accepted by Customs in 40 countries. They include the Community, although for travel within the EC alone a special Community carnet is also available from Customs.

My guess is that Observer's friend was in any case caught up in a situation that will have had something to do with increasing Customs sensitivities, in many countries, over travellers carrying PCs. These sensitivities undoubtedly arise from the agreement of the 15 nation coordinating committee on export controls (COCOM) - NATO plus Japan - to limit movement of high-tech and other items into Warsaw Pact countries. Some computers, including the humble PC, are included in the control list. All this means that bona fide business travellers carrying PCs, who were previously able to take them through Customs as personal effects, now find they face demands for two types of document: an export licence, to show approval within the restriction controls; and a temporary admission carnet (or face the burden of full Customs entry, bonds and recovery at each point). Whether an export licence is needed or not can only be determined by the British traveller by contact with the DTI's Export Licencing Branch - obviously before he sets out!

The moral for Observer's friend, and other equipment-carrying travellers, is that they must assume they will need some for of documentation, alas, but that some forms are easier than others.

B J Burke
69 Cannon Street EC4

Engineering vote

From the Chairman, George Emmott (Pawsons).

Sir, - If your Labour correspondent Mr Charles Leadbeater is thought to have some in*fluence amongst industrialists*, I suggest that his article of October 14 could pre-empt the postal ballot of the 5,000 members of the Engineering Employers Federation to determine whether they should approve or reject the final proposals on the 37½ hour week and related matters.

The object of the recommended postal vote is that a genuine feeling of all members should be sought, rather than a count of votes of those who attend regional meetings.

I would suggest that many forward looking employers see the proposals as fair and reasonable, and an opportunity to advance further the objectives of both the employers and employees to their mutual benefit and company's prosperity.

Mr Leadbeater refers to employers such as Ferranti, Rolls-Royce, British Aerospace and Northern Engineering Industry as large blocks of votes, and in the following paragraph can be considered to infer that they *will give the proposals a luke*warm reception. It would be a pity if your readers were influenced by Mr Leadbeater's untimely remarks.

F V Mills
Wadsworth Mill,
Oxenhope,
Keighley, W Yorks.

Not the old rigid snake

From Mr D Prag MEP

Sir, - Professor Presnell (September 30) in his reply to my letter on UK entry into the EMS forgets two crucial points.

The exchange-rate mechanism of the current EMS is not the old, rigid "snake". On the contrary, one of its main advantages is the ease with which, when long-term influences sort themselves out from short-term and speculative pressures, it facilitates sensible changes in the exchange rate. The days of slack control of Britain's money supply, public spending, inflation rate and the balance of payments are over. We now have a government that is in control of the economy and has, particularly of late, shown itself ready to take in good time the necessary internal measures to keep sterling steady.

Now that the Chancellor appears convinced of the ill effects on our foreign trade of a wildly fluctuating currency there is no more reason why we should be subject to stop-go and deflationary pressures than any of the other member states who find the EMS *just right for them.*

Professor Presnell's doctrine is the doctrine of despair, based on the assumption that we are incorrigible. Mrs Thatcher's government has shown that, on the contrary, our bad old economic habits can be corrected.

I do not wave aside the possible consequences of entry into the EMS's exchange rate mechanism, as Professor Presnell alleges. I simply believe that they are nothing like as *frightening* as he imagines, and that we are now in as good a condition to cope with them, and benefit from them, as the other members.

Derek Prag,
47 New road,
Digswell,
Welwyn, Herts.

FINANCIAL TIMES
Monday October 19 1987

Greens fail to shake ruling Swiss coalition

BY WILLIAM DULLFORCE IN GENEVA

GREEN environmentalist groups made gains in the Swiss federal elections at the weekend, but failed to shake the control exercised since 1959 by the governing four party coalition. Swiss politics will continue to be stable and conservative.

After results from 18 of the 23 cantons, covering 129 of the 200 seats in the National Council had been declared last night, the Swiss ecological party, which had placed three members in the outgoing legislative, had won only two new seats. A green-red alliance linking environmentalists and left-wing groups has also captured two more seats.

With Berne and Vaud, two of the three most populists cantons still to declare, the Green, advance had been less forceful than expected. The Environmentalists had failed in their attack on the Swiss People's Party which is the smallest of the four ruling parties.

The People's Party has increased its standing by three seats. Losses have been sustained by the three larger coalition parties, the Radical Democrats,(minus 3), the Socialists (minus 4) and the Christian Democrats (minus 2). The erosion by the Green Wave of the 166 seats held by the four parties in the outgoing council appeared to be only marginal.

A maverick Automobile Party, recently formed to represent car owners and to counter the influence of the Environmentalists on road policy, has succeeded *in placing a representative* on the council from the canton of Zurich.

In Zurich the ruling coalition suffered a minor upset in the election to the 46-member upper chamber, the Council of States, when Ms Monika Weber, an independent and a leader of the Consumers movement, defeated the People's Party candidate.

The four parties and their Liberal allies have previously dominated the upper chamber.

In Geneva the 4.8per cent increase in the vote for the Greens shown in early results appeared to have been at the expense of the extreme right-wing Vigilant Group which had campaigned on an anti-foreigner ticket.

Almost all cantons reported lower turnouts than in the last elections of 1983, indicating that the Greens had failed to mobilise the expected support.

Paul Betts in Paris looks at the scars and victor of the battle

Old hand is new broom at Unesco

FEDERICO MAYOR ZARAGOZA, a well-groomed 53-year-old Catalan biochemist, is no stranger to the troubled UN education, culture and scientific organisation.

His relationship with Unesco dates back to 1974 when he became a member of the agency's advisory committee for "scientific research and human needs." Between 1978-81 he was deputy director of Unesco and between 1983-84, was a special adviser to Mr M'Bow whom he has just defeated in a bitter and highly political electoral battle.

Mr Mayor's experience of the organisation, as well as his distinguished scientific and political record, prompted more than 100 personalities from all over the world and 11 Nobel prize winners to endorse his candidature for the top Unesco position last September.

His supporters saw in Mr Mayor a candidate whose undeniable technical qualifications for the job would help him muster the necessary votes from the executive board.

When he first announced he was entering the Unesco race, Mr Mayor declared that he did not want to be regarded as the "candidate of the West." From the beginning he has sought to project himself as the "candidate of everyone" whose task would be to put Unesco back on its feet after the crisis of the last few year.

But Mr Mayor, who is fluent in English and French as well as his native Spanish, found the contest far tougher and acrimonious than he ever imagined. After trailing well behind Mr M'Bow in the first two rounds of voting, he made a spectacular leap in the third and fourth ballot - finally prompting his rival to bow out of the contest. But even then he did not win by a unanimous vote since 20 out of the 50 members of the executive board voted against him.

But if his election was not met with overwhelming enthusiasm it has, nonetheless, come as a relief for the troubled organisation. Mr Mayor immediately made it clear yesterday that he would strive to rebuild a consensus inside the agency and work to bring back to Unesco's fold Washington and London.

Ironically, Mr Mayor did not have at the beginning the unanimous support of his own country. A former Spanish education and science minister between 1981-82 in the centrist government of Mr Adolfo Suarez, he had to deploy all his political and diplomatic skills to win the support of the Spanish socialist administration and especially overcome the misgivings of the present Spanish education minister, Mr Jose Maria Maravall.

Mr Mayor, a European member of parliament, sought to highlight his professional rather than political qualifications for the job. His supporters believe that his technical qualifications made him the best candidate to try to restore the credibility of Unesco and save it from sinking even further.

After graduating from Madrid and Granada universities, he later went to Oxford before becoming rector of the university of Granada in 1968 to 1972. He is active in biochemistry and molecular biology, and became president of the Spanish Society of Biochemistry from 1970-74.

But it is undoubtedly his deep knowledge of the workings of Unesco itself which has made him an attractive candidate. In trying to stitch together a consensus between North and South he will have to tread a minefield.

He emphasised yesterday that he was not just the Spanish candidate but also the candidate of the executive board and Africa. He also spoke of his deep liking for Africa and his concern to help the developing world.

He said after his hard-fought election: "I am in favour of the universality of Unesco where I would like to see every country represented with the exception of South Africa."

Mikhail Gorbachev: food industry the most urgent objective

Gorbachev urges new approach to food supply

By Patrick Cockburn in Moscow

MR MIKHAIL Gorbachev, the Soviet leader, said at the weekend that providing the consumer with an adequate food supply could not be achieved without improved storage, transport and processing of farm products.

Although output of meat, milk and eggs expanded fast in the first nine months of the year, according to figures published yesterday, the benefits frequently did not reach consumers.

Unless technical backwardness in the food industry was eliminated "we will continue to suffer enormous losses," he said.

And he told the Communist Party Central Committee on food processing that "retooling the food industry is now the most urgent objective".

Mr Nikolai Ryzhkov, the Prime Minister, also expressed concern that a heavily subsidised increase in food output at farms since 1985 was not reaching the shops.

"New technologies would make it possible to boost output 20 to 30 per cent from the same amount of initial products.

"The processing industries of the agri-industrial complex are lagging behind in their development from the rates of growth of agricultural production."

The statistics for the first nine months of this year show that meat and poultry output was up 9 per cent on the same period last year at 16.1m tonnes, while milk and eggs production each rose by 3 per cent.

Other sectors of the economy showed mixed results: oil, gas and coal production were ahead of target but capital construction is still lagging behind the ambitious plans to raise investment rapidly. Industrial output was up by 3.6 per cent in the first three-quarters of the year and labour productivity by 3.7 per cent over the same period.

Mr Gorbachev and the Politburo are particularly eager to increase the quantity of food in the shops because they are also planning to raise the prices of basic products.

In a speech earlier this month, Mr Gorbachev gave full support to an increase in the price of food, a policy which appears to have created strong resentment among ordinary Soviets.

● Iran and the Soviet Union have signed an agreement on economic co-operation in the Caspian Sea where the borders of the two countries meet.

Under the agreement Iran will supply 5m tonnes of crude oil to Moscow each year, of which 2m tonnes of refined products will be shipped back to Iran by Soviet tankers in the Caspian.

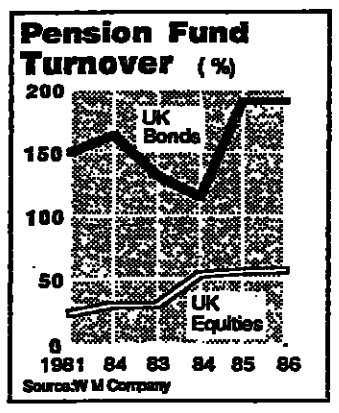
Mr Gholam Reza Aqa-Zadeh, the Iranian Oil Minister, and Mr Konstantin Katushev, chairman of the Soviet State Committee for Foreign Economic Relations, also discussed "the question of the possible transit of Iranian oil across the USSR's territory."

Iran is eager to improve economic relations with Moscow because Iraqi air attacks in the Gulf are constricting Tehran's trade routes to the south.

THE LEX COLUMN

Taxing time for pension funds

Wall Street has been looking seriously overvalued by historical standards for several months and the dramatic selloff of the last two weeks may be the sort of long overdue correction necessary before the market can move higher. However, it would be foolhardy to dismiss the 16 per cent fall in the S & P 500 from its August peak, which has wiped out almost half of the market's rise over the last year, as purely technical. It is much more extreme than the sort of corrections the market had been preparing for, and cannot be ignored easily by the London market. If the five-year-old US bull market is to remain intact, much will depend on the continued confidence of foreign investors and US corporations, whose appetite for US equities has pushed traditional valuation benchmarks to historically high levels. The events of the last two weeks will have sorely tested their confidence.



Pension funds

The tax exempt status of pension funds, handed down by the 1970 Finance Act, has been defended by the pensions professionals with remarkable tenacity. Something has been conceded on the taxation of surpluses, but the wider battle against fiscal neutrality seems to be won. The Inland Revenue, though, is now developing into a more subtle enemy of pension fund freedoms.

Those freedoms have always been relative. The 1970 Act exempts funds from income tax and capital gains tax on "investments", but they enjoy no general exemption from tax on "trading" profits. A precise definition of these two terms is, unfortunately, not provided by law. But understandably enough, the Revenue has come to regard some of the increasingly rapid turnover in securities and the growing use of futures and options as potentially outside the spirit of the Act. In rising markets, fund managers who buy in the morning and sell in the afternoon have become more common than they used to be.

Other aspects of pension fund practice, such as stock lending, have always been taxed. But funds do possess two further special tax exemptions: from income from underwriting (1971) and financial futures (1984). It appears to be in these two areas that the Revenue first started sniffing around. Underwriting commissions are not obviously investments, and when they started flowing in large quantities at the peak of the takeover boom questions began to be asked. Similarly, the exemption for financial futures (which does not extend to all options) is based on the assumption that they are being used as hedges, not as trading instruments. The resolve of the tax authorities to take their cut is illustrated by the fact that the Fisons pension fund is due, next month, before the special commissioner over a capital gains tax claim relating to some financial futures transactions which have subsequently been made tax exempt by the 1984 Finance Act.

Those who believe a constant churning of share stakes is one of the causes of short-termism will be glad to know that the Revenue's muscle-flexing does seem to be changing behaviour. The funds do not have to forego their general exempt status if caught on the wrong side of the investment/trading line, but they are liable to large tax bills for the deals in question. One major fund is reported to have accepted a £20m tax bill for trading activities with little argument, but many more are presumably erring on the side of caution, particularly as trustees are technically responsible in person for any breach of their investment powers. For the time being the uncertainty is creating, for the Government, a happy combination of disincentive to short-term trading, erosion of pure fiscal privilege and even a bit of extra revenue. But a clarification of the position would surely be in everyone's interest.

Austria

BP is not the only large oil company that has been preparing to sell a chunk of its equity to the public over the past few weeks. But OEMV - the Austrian national oil company - has been borrowing more from the "Sid" campaign to ensure that the entire strategy of unlocking state control of that economy does not founder on the fact that less than two per cent of the population currently owns shares. And the company's virtual monopoly of oil refining, although not distribution, gives it more of the investment profile of a BT.

The oil business, which dominates over gas and petro-chemicals, is largely domestic (aside from Libya) and concentrated downstream. The closest comparison is probably with Petrofina, which means that even taking the highest likely issue price of Sch5,000 OEMV, it looks cheap on a prospective multiple of about 10. That, however, involves an optimistic journey through the accounting conventions of the German-speaking world. Last year OEMV reported operating profit of Sch1.4bn and "net profit" (dividends) of 300m. This year the operating profit is expected to be slightly lower but, thanks to the lack of inventory write-off, earnings in the UK sense could be as high as Sch900m. The shares will also be trading at a chunky discount to asset value even excluding hidden reserves. The Government should, therefore, manage to price the issue attractively and prepare the ground for more difficult issues to come without opening itself to attack from the left.

As OEMV is already one of the best-run state enterprises in Austria there will be little scope for rationalisation, and, in any case, only 25 per cent of the company is being floated. However, the state holding company OIAG has been greedy for dividends in recent years to prop up the duds in its portfolio. OEMV's extra independence may thus allow it to retain more earnings to satisfy a desire to internationalise and grow by acquisition into a powerful niche business.

Despite the stagnant condition of the Austrian market since 1985 the last small privatisation was seven times oversubscribed and went to an immediate 10 per cent premium (from which, admittedly, it has scarcely budged in eloquent testimony to Austrians' reluctance to relinquish what they hold). The pity is that the 40 per cent targeted for foreign markets is likely to be clawed back to 20 per cent thanks to that campaign to attract some of Austria's Sch1,000bn of household savings. But there could be more coming next year, and in the meantime how about a few hydro-electric power stations?

Anglo-Irish courts reform deal denied

BY OUR DUBLIN CORRESPONDENT AND TOM LYNCH

MR PETER BARRY, the former Irish Foreign Affairs Minister, said at the weekend that the government in which he served did not secure a specific commitment that Britain would reform the Diplock courts in Northern Ireland, in which a judge sitting alone and without a jury, tries terrorist suspects.

His remarks conflict with the reported view of Dr Garrett Fitzgerald, the former Taoiseach (prime minister), who is said to have told a private conference last month that Mrs Margaret Thatcher, the British Prime Minister, had promised reform during negotiations on the Hillsborough Agreement on London-Dublin co-operation. Britain has always denied the existence of any such understanding, explicit or tacit.

Mr Charles Haughey, the Taoiseach, faces strong criticism from the opposition, the Catholic Church and members of his own party over a new treaty with Britain on the extradition of terrorist suspects to the North - a treaty which Mrs Thatcher sees as integral to the Hillsborough process.

An act giving effect to the treaty was delayed to put pressure on the British Government to amend the Diplock courts - *the republic has argued that acceptance* of the treaty would be easier if the Irish people could have more confidence in the legal system in the North.

The deadline for the Dail vote to ratify the treaty is December 1 next, and it is clear that the Fianna Fail government does not feel obliged to press for its implementation in the absence of concessions from London on judicial reform.

However, Mr Haughey has been careful not to make specific demands in public, and it is thought that his government might accept reform falling short of the three-judge bench for which the republic has pressed in the past.

The issue is likely to be at the centre of a crucial meeting of the intergovernmental Anglo-Irish Conference, which is expected to take place on Wednesday.

The Dublin Government's campaign for reform of the Diplock courts will not be helped by Mr Barry's statement. He said his ministers and officials had been convinced that substantial reform in this area "was on," but there was no formal written record of what British intentions had been at the time.

His comments came during a weekend of intense political activity. Mr Brian Lenihan, his successor as foreign minister *met separately in London with* Mr Tom King, the Ulster Secretary, and Mr Douglas Hurd, the Home Secretary.

UK insurers facing heavy storm claims

BY FINANCIAL TIMES REPORTERS

BRITAIN'S insurance companies are bracing themselves for an unprecendented level of claims this week after the freak storms which swept the south of England last Friday.

It will be some time before the full financial damage can be assessed but the Guardian Royal Exchange, for example, expects hefty claims "because the damage was done in the south and south east of England which are densely populated and where people are relatively wealthy".

The Home Office emphasised yesterday that Mr Douglas Hurd, the Home Secretary, had not rejected the possibility of government help to meet the cost of the damage. However, it was too early to say where responsibilities would rest.

The Meteorological Office, meanwhile, is facing its biggest crisis since it was formed in 1855 over its failure to give adequate warning of the worst weather in modern times.

It has come under scrutiny from MPs, ministers and the public and has already ordered its own internal investigation into what went wrong following the storm that left more than 13 people dead and caused millions of pounds worth of damage.

Dr John Houghton, director-general of the Met Office, insisted yesterday that British forecasters had been no less successful than their Continental counterparts in predicting the freak conditions.

"The information from all our computer models indicated very strong winds on the continental side of the depression, in France and the Low Countries, which was not in conflict with what the Continental forecasters were saying. Where we didn't get it right was in predicting the winds over the UK."

One Dutch forecaster, Mr Harry Otten, warned listeners on his morning radio bulletin on Wednesday against travelling to Britain. But Dr Houghton stressed that continental forecasts related to sea conditions - which the Met Office had also warned would be rough - and not to the impact of the winds on Britain.

Sealink the cross-Channel ferry operator said last night that it would wait until later this week before attempting to refloat its vessel Hengist, whose hull suffered a 10 ft gash after it ran aground at Folkestone.

The British Army joined efforts at the weekend to help restore the electricity supply; but more than 300,000 homes were still without electricity last night and the Electricity Council said it would take a few more days before power was fully restored.

Baker gives pledge on policy co-operation

BY STEWART FLEMING IN WASHINGTON

MR JAMES BAKER, the US Treasury Secretary, yesterday began to tone down the rhetoric he has recently been directing at West Germany.

Mr Baker, who last week accused West Germany of breaching the spirit of the economic policy co-operation process among the leading industrial countries, carefully avoided levelling new charges in an American television interview.

He said: "We would never change policy in this country without first making sure, at least, that we notified and discussed it with our trading partners." The co-operation accord among industrial countries was still operative.

"On the other hand we will not sit back in this country and watch surplus countries jack up their interest rates and squeeze growth worldwide on the expectation that the US somehow will follow by raising its interest rates," he added.

He discounted newspaper reports "that attribute comments from unidentified senior Administration offiicals". These have suggested that Washington is ready to let the dollar fall if West Germany raises its interest rates and puts upward pressure on US interest rates.

Commonwealth leaders attacked by Thatcher

Continued from Page 1

Commonwealth aid to the African front-line and neighbouring states, particularly to Mozambique, for which a special technical assistance fund is to be set up.

The assistance efforts will be concentrated, as they already are, on key sectors such as transport and communications, including their "physical protection" against sabotage attempts by South Africa.

Priority will be given to the development of the Limpopo railway, which runs from the Mozambiquan port of Maputo to Zimbabwe.

On sanctions, however, Britain dissociated itself from at least five elements of the future programme of action. Mrs Thatcher specifically refused to endorse the statement adopted by the other members that "economic and other sanctions had had a significant effect on South Africa and that their wider and more intensified application must remain an essential part of the international community's response to apartheid."

The Commonwealth leaders also unanimously adopted a statement on Fiji intended to persuade its military leadership to return to a political system which would guarantee the democratic rights of both the Melanesian and Indian populations.

World Weather

		°C	°F			°C	°F			°C	°F			°C	°F
Ajaccio	S	21	70	Dubrovnik	C	21	70	Malta	F	26	79	Rhodes	F	23	73
Algiers	S	31	88	Edinburgh	C	13	55	Manchester	C	15	59	Rio de J'o	C	26	79
Amsterdam	S	15	59	Faro	C	21	70	Manila	C	32	90	Rome	S	23	73
Athens	F	24	75	Florence	S	23	73	Melbourne	C	16	61	Salzburg	C	11	52
Bahrain	S	31	88	Frankfurt	C	9	48	Mexico City	S	25	77	San Francisco	C	20	68
Bangkok	S	33	91	Funchal	C	21	70	Miami	S	28	82	Seoul	R	14	57
Barcelona	S	21	70	Geneva	S	13	55	Milan	S	19	66	Singapore	TH	31	88
Beirut	C	25	77	Gibraltar	C	18	64	Montreal	R	13	55	Stockholm	C	10	50
Belfast	S	13	55	Glasgow	F	13	55	Moscow	C	1	34	Strasbourg	C	10	50
Belgrade	F	18	64	Guernsey	F	13	55	Munich	F	12	54	Sydney	S	21	70
Berlin	S	13	55	Helsinki	C	10	50	Nairobi	F	28	82	Taipei	S	29	84
Biarritz	S	21	70	H. Kong	C	28	82	Naples	F	24	75	Tangier	F	23	73
Bombay	F	30	86	Innsbruck	F	12	54	Nassau	S	29	84	Tel Aviv	C	21	70
Bordeaux	C	16	61	Inverness	F	14	57	New Delhi	F	28	82	Tenerife	C	25	77
Brussels	S	15	59	Islamabad	C	29	84	New York	S	16	61	Tokyo	S	26	79
Budapest	S	17	63	Istanbul	F	19	66	Nice	S	23	73	Toronto	R	17	63
B. Aires	-	-	-	Jakarta	C	30	86	Nicosia	S	27	81	Tunis	S	26	79
Cairo	F	26	79	Jersey	F	15	59	Oporto	S	19	66	Valencia	F	21	70
Cape Town	F	19	66	Jo'burg	S	25	77	Oslo	F	11	52	Venice	R	11	52
Caracas	C	29	84	Lima	R	21	71	Paris	S	15	59	Vienna	R	11	52
Casablanca	S	22	72	Lisbon	S	19	66	Peking	S	14	57	Warsaw	C	11	52
Chicago	C	11	52	London	F	16	61	Prague	F	12	54	Washington	-	-	-
Cologne	S	15	59	Los Angeles	C	22	71	Reykjavik	S	5	41	Zurich	S	14	57
Copenhagen	S	14	57	Luxembourg	S	12	54								
Corfu	R	21	70	Madrid	F	14	57								
Dallas	-	-	-	Majorca	S	24	75								
Dublin	C	13	55	Malaga	F	21	70								

Readings at mid-day yesterday
C-Cloudy D-Drizzle F-Fair Fg-Fog H-Hail R-Rain S-Sun Sl-Sleet Sn-Snow T-Thunder

Peru's pin-stripe freedom fighter

Continued from Page 1

week a bomb was anonymously planted just outside the Banco Mercantil. It was deactivated by the police's experienced bomb squad, but it lent another guerrilla war touch to the banker's protest.

In keeping with his new role of resistance chief, Mr Pardo communicates with other top bankers by walkie-talkie. His code name is Gadaffi, because "I'm the crazy one". Mr Dionisio Romero, one of Peru's wealthiest men and president of the Banco de Credito, has the code name "The Beggar".

Mr Romero has had the closest relationship to President Garcia. Last November, at Peru's largest annual business conference, the president arrived in Mr Romero's private aircraft with the banker as pilot. Mr Romero is said to be the only banker who was told about the nationalisation move.

It is also widely understood that Mr Romero is the only banker to have had conversations with the President since the nationalisation was announced. Mr Romero's move last week to sell the majority of the Banco de Credito's shares to its workers, considered a coup against the expropriation, was said to have been privately given the nod by the president himself.

Some commentators have even considered the Banco de Credito's move to worker control the crowning achievement so far of President Garcia's campaign to wrest economic control from the country's four most powerful financial groups.

The four groups held dominant positions in Peru's top private banks

SECTION II – COMPANIES AND MARKETS
FINANCIAL TIMES
Monday October 19 1987

INTERNATIONAL BONDS

Worried dollar dealers find relief at end of a tempestuous week

BY CLARE PEARSON IN LONDON

THE EXTREMELY stormy weather in London last Friday seemed an entirely fitting end to a tempestuous week in the international debt markets, dominated by a new crisis of confidence in the current international exchange rate system.

Eurobond dealers either unable to reach the City, or finding almost no one else had when they got there, must have heaved sighs of relief at the windfall opportunity to leave the market alone.

Dealing had pivoted around last Wednesday's release of the US August trade deficit figure – seen as key to the Group of Seven's accord to support the dollar. This emerged around $1bn higher than expectations at $15.7bn.

As a result, the US Treasury bond market went into a tailspin which pushed the yield on the benchmark long bond up above 10.30 per cent at one point, and bond markets in other currencies could not help but follow suit.

Though short covering later limited these losses, the week nevertheless left bond dealers with a chilling uncertainty. As one dealer put it: "Is this the last, or the first floor to the market?"

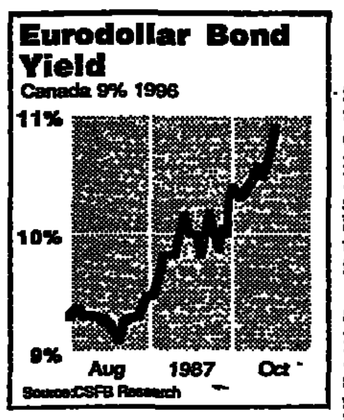
The majority seemed to be taking the latter view, which was explored in Nomura Research Institute's weekly global bond review. This highlights the bleak prospects of the US Treasury bond market as the eight-month-old accord among leading industrial nations to stabilise the dollar comes under increasing strain.

The reason is that failure to curb the US's balance of payments deficit has led to a growing belief that the dollar must fall further. Meanwhile, West Germany and Japan have appeared increasingly reluctant to support the dollar at the cost of their own monetary expansion.

So even if the Federal Reserve raises the US discount rate by ½ per cent, NRI argues, this might not be enough to bolster confidence in the dollar while at the same time a larger increase would enhance the leeway for further interest rises in Japan and West Germany.

If, on the other hand, the Federal Reserve allows the dollar to fall, it is now less clear than ever at what level the other central banks will be prepared to stop it falling.

"A small fall would do little to help the trade deficit while a larger fall would confirm the markets' worst fears about US inflation." Either way, without substantial foreign exchange intervention, interest rates would be pressed upwards, according to the NRI view.



With such bearish views as this flying around last week, both the Eurobond primary and secondary markets slumped into inactivity. Indeed, one syndicate manager remarked that turnover on his new issue book was down by a factor of about five on normal levels so far this month.

Meanwhile, the lack of supply from the primary market continued to make secondary market trading ever more hazardous. Dealers are finding it increasingly hard to hedge long positions with corresponding short positions, as new bonds dry up and investors, reluctant to take their losses, hold back from selling.

Only short-dated bonds are considered appropriate in the primary market now, and these, indeed, have been getting progressively shorter: last week's issues for Merrill Lynch and Toronto Dominian Bank showed that two-year lives are now *de rigueur.*

The rationale for these bonds is that the flatness of the US Treasury bond yield curve makes it not worth investors' while to buy longer-dated bonds. Two and three-year bonds, on the other hand, can be sold to cash managers who are attracted by a yield pick-up of around 2 per cent over money market instruments.

A longer-dated bond can now be justified only for the very best-liked issuers – the rationale for launching a C$100m bond for Nippon Telegraph and Telephone last week.

On the face of it, this bond had everything going for it: it was for the right borrower; it was launched at a yield spread widely acclaimed as "generous"; and it was denominated in almost the only currency that was attracting any retail interest last week.

Admittedly, its yield margin of around 67 basis points over Canadian government bonds did not widen during the week – but it had been expected to tighten. Perhaps paradoxically, dealers suggested that it might have attracted more institutional interest had it been larger.

The D-Mark bond market had twin sources of anxiety last week: not only could it not escape the trend to higher worldwide interest rates, but it also had to grapple with the West German Government's protracted mixed signals over its decision to reimpose withholding tax.

By the end of the week, it was clear that the 10 per cent withholding tax would apply only to bonds issued by German borrowers – regardless of currency or type of bond – but it was still not certain whether it would apply to bonds issued by borrowers' offshore financing vehicles.

In the domestic bond market, the average yield on domestic bonds had risen by last Friday to 6.81 per cent, up from 6.58 a week before and the highest level since late 1985. The D-Mark Eurobond market was also depressed by these factors, although many commentators were pointing to the potential benefits that might accrue from its exemption from the proposed tax.

These arguments seemed to be reflected in prices towards the end of the week. The yield differential had changed from supranational Eurobonds yielding about 25 basis points over government bonds, to about 15 to 18 basis points below them.

However, the potential benefits to borrowers of this trend did not yet seem to have come through. A long-awaited bond for China that emerged on Wednesday with a 6 per cent coupon was widely considered too tight.

Although Mr Wolfgang Roeller, chief executive of Dresdner Bank, said on Friday that "we feel very comfortable with the bond", others did not. Even Dresdner itself quoted it at less 2½ bid.

COMMERCIAL PAPER

Issuers in search of reassurance and committed players

BY ALEXANDER NICOLL IN LONDON

THE EUROMARKETS have lived through bear market cycles before. There is no reason to think that they will not live through this one too. But the pressures of overcrowding and of weakening markets are forcing some wrenching shifts of strategy.

Tough decisions, taken most prominently last week by Salomon Brothers and Chemical Bank, and earlier this year by Lloyds Bank, must also be under consideration in many other houses.

Salomon pulled out of short-term instruments as well as US municipal bonds. The rationale for and impact of withdrawing from short-term markets are mainly in the US, where commercial banks are finally being allowed to move into commercial paper.

Goldman Sachs' decision to drop its time-honoured insistence on holding sole dealerships in US commercial paper was another reflection of growing competitive pressure.

The US commercial paper market is well-established, to say the least. Even though Salomon was a substantial participant, its withdrawal seems likely to have little effect on the market except for those few, unlucky companies which had Salomon as sole dealer.

The Euromarkets, however, are in a rather more delicate state. The Eurocommercial paper market, even with perhaps $35bn of paper outstanding, is still young. It could benefit from uncertainty about longer-term interest rates. But issuers still need reassuring that it will provide a reliable source of funding for them and that their dealers are genuinely committed.

One likely effect of Salomon's withdrawal from the market will be to consolidate the hold that about half a dozen dealers increasingly exert upon it. New issuers will generally want to be sure that they have a couple of these apparently committed players among their dealers.

Another effect is to add fuel to the probably futile debate about whether commercial or investment banks are best suited to handle commercial paper.

Commercial banks argue that short-term instruments have always been a natural part of their repertoire and that they can include commercial paper among them without adding unduly to their costs.

EUROMARKET TURNOVER ($m)

Primary Market	Straights	Conv	FRN	Other
US$	1,338.2	385.1	0.0	6,732.5
Prev	499.2	297.1	93.8	5,856.2
Other	1,431.9	484.5	615.9	502.7
Prev	1,215.8	0.0	471.7	370.1
Secondary Market				
US$	23,680.2	2,613.4	11,062.3	5,556.2
Prev	26,081.2	2,301.9	11,382.3	5,552.9
Other	17,727.9	1,205.1	4,282.9	13,868.6
Prev	19,882.9	1,084.1	3,630.1	14,984.4

	Cedel	Euroclear	Total
US$	15,021.4	36,346.5	51,367.9
Prev	16,035.8	36,028.8	52,064.6
Other	16,201.7	23,917.8	40,119.5
Prev	17,914.5	23,724.6	41,639.1

Week to October 15, 1987 Source: AIBD

Investment banks retort that commercial banks do not understand securities markets, have an uncertain commitment to them and lack the distribution bases which many investment banks have built.

The debate obviously has poignancy in the US, where the investment banks' long-held preserve is being challenged. But in the Eurocommercial paper market, the fact is that the top 10 dealers are divided equally between investment banks and subsidiaries of commercial banks. Neither side is getting the upper hand over the other, nor is there any clear reason why either should.

What is much more important, for any kind of player, is the profitability of being in a market, and any other benefits which might accrue.

Salomon has become the latest bank to challenge the concept of providing all possible securities market services to all customers around the world. This is all the more dramatic since – with its headlong growth in London and Tokyo – it has itself been one of the greatest champions of the idea.

The immediate need will be to limit the damage to its relationships with existing clients whose confidence in Salomon as an investment bank could be undermined.

But there is a trend among corporate treasurers towards dealing with a broader range of banks – using each in the market where it is recognised as strong – instead of employing a few key relationship banks.

Issuers are likely to appreciate a bank that pulls out more than a bank which makes claims about distributive skills that it cannot live up to. To some people, Salomon's lack of commitment to the short-term Euromarkets was already clear.

One of the arguments advanced for seeking commercial paper dealerships is that they provide you with daily close access to the corporate treasurer and thus put you in a prime position to win other business.

The costs of maintaining this foot in the door are difficult to isolate from other costs, but quite high. Because of the need for daily contact with both issuers and investors, commercial paper is labour-intensive. Even the biggest players say that it is high-volume, low-margin: never likely to be a startling profit source.

Then there is the oft-noted catch that, even if a dealership does lead to other business from the borrower, the competition is such that the new business is equally likely to be unprofitable.

Chemical, like Lloyds, has faced up to the fact that its middle-ranking status in the Eurobond market was never likely to produce sufficient profits and that it was pointless to go after loss-making mandates.

Yet it still sees a relationship value in Eurocommercial paper, in which it is not one of the top players. It is keeping its presence as part of a strategy to bring higher value-added products to a smaller range of customers. Commercial paper can be combined with foreign exchange and swap skills to deliver such products.

Over the next few months, this "relationship" value of dealership – and of other Euromarket instruments – will come increasingly under scrutiny.

UK GILTS

Borrowing figures lift long contract

THE COMBINATION of fierce storms which virtually closed down the City on Friday and extreme volatility on Wall Street after August's US trade figures made for a confusing end to last week for UK government bonds.

There was minimal activity in the gilt-edged market on Friday as disrupted screens and telephone lines made trading almost impossible. The long gilt futures contract, however, was traded and rose in reaction to September's excellent public sector borrowing requirement figures.

The future rose from about 112 24/32 before the announcement to around 113½. There is no doubt news on government borrowing is getting better and better and talk of a balanced Budget this year seems by no means over-optimistic.

A simple comparison of the cumulative PSBR, excluding privatisation receipts, this year and last (all things being equal) suggests this year's borrowing requirement could be below £2bn. Up to September last year, the cumulative PSBR, ex-privatisation, was £6.9bn but the PSBR for the full year turned out at only £3.4bn. Subtract the same £3.5bn from this year's cumulative PSBR, ex-privatisation, and you reach the £1.9bn figure.

It is quite clear then that, whereas privatisation receipts undershot the Government's target last year, this year's revenues will exceed £5bn. This could reduce the PSBR to perhaps only £1bn without taking fully into account faster than expected economic growth this year, very buoyant corporate profits and a much firmer average oil price than the one factored into the Budget arithmetic.

Speculation that the corporate tax paying season, which gets under way in the new year, will provide the Treasury with even more bumper receipts than envisaged at Budget time was fuelled by Thursday's announcement that the Bank of England will expand its weekly offering of Treasury bills.

The key motivation behind this decision, it seems, is to preempt money market shortages in the new year as corporation tax starts rolling in, rather than concern about surplus liquidity in late October and the first half of November.

A large gilt-edged redemption of about £1.95bn is likely to inject some cash into the money market early next month but this should be offset to some extent by the first call on BP and the second call on the auction stock.

That is all good news for gilts and should this week help insulate the market from any further transatlantic shocks. The behaviour of US markets last Friday was rather difficult to interpret. Bonds recovered, quite rationally, as mildly encouraging producer prices figures were published and as all the comments emerging from US officials suggested a desire to hold the discount rate down.

It was not easy to see why this, coupled with signs of increasing strain between the US and West Germany on interest rate policy, should have helped the dollar stabilise.

As it was, the much-expected cross-over between long-dated gilt and long US Treasury bond yields did not happen. The US long bond recovered on Friday to a yield of 10.20 per cent from 10.22 per cent at Thursday's close while the rise on the gilt futures contract on Friday only brought long yields down to just below 10.3 per cent.

British yields should fall below US ones on economic fundamentals - you just have to look at the size of the US budget deficit and Britain's government finances - but there is still a natural psychological resistance to the cross-over.

Resistance to any substantial rally in gilts may be fortified as the market tunes up for this week's money supply and balance of payments figures.

The consensus forecast for bank lending is for an increase of around £2¾bn while predictions for the current account are for a shortfall in September of around £350m. Neither of these figures would be nearly as bad as some the markets have had to brave this year but they would, nevertheless, not be that encouraging.

Throughout everything, sterling has held as steady as a rock and it is difficult to see the Chancellor acceding to a rise in base rates while sterling is clearly bumping up against its official ceiling.

That alone should insulate gilts from the negative impact on other bond markets of rising world interest rates and impending squalls between Bonn and Washington.

Janet Bush

US MONEY AND CREDIT

Trade data set off 'massacre'

WALL STREET'S ultra sensitivity to US trade figures wreaked havoc on its credit markets last week and triggered a spectacular sell off in the stock market. For both stocks and bonds, the week was instantly dubbed the October Massacre.

The $15.7bn deficit was only a bit worse than expected but it revived all the old fears about a tumbling dollar which in turn could bring foreign investors out on a buying strike against dollar denominated securities.

These factors could only contribute to other negative influences, the market believed, and push up interest rates at home. It rapidly became a self-fulfilling prophecy as the Treasury's benchmark 8.75 per cent 30-year bond dropped more than two points, putting its yield above 10 per cent for the first time in almost two years. Chemical Bank lifted its prime rate by half a point to 9.75 per cent but as yet no other money centre banks have followed suit.

The bear bond market, triggered in mid-March by a falling dollar, has driven the long bond yield up by 2.60 percentage points, or 35 per cent. Investors and dealers had little time for history last week as prices spiralled down, but for the record the routs June to December 1980, and July 1978 to April 1979, were worse, according to Salomon Brothers. Yields rose 38.7 per cent and 39.3 per cent respectively.

But history is important for the context of the latest debacle. The last time yields pushed up through the 10 per cent mark was 1979. Then monetary policy was extremely tight with a discount rate of 12 per cent and inflation rampant at almost 13 per cent. Today the discount rate is 6 per cent and inflation about 4 or 5 per cent.

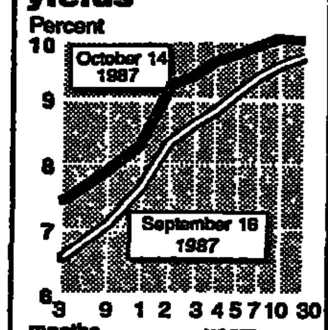
The huge disparity of contexts is a measure of the gulf between fear and reality in today's markets. Some economists, notably Mr Philip Braverman of Irving Securities, argue that the market realises that inflation will not rise sharply but it fears the Fed has an over-blown belief the market is gripped by an inflationary psychology. Thus the Fed wants to push up short term rates to quash the paranoia but by doing so will in fact push up interest rates across the board.

Analysts breathed a sigh of relief late last week when the Fed supplied generous reserves to the banking system to help ease the Fed Funds rate. The volume and unusual timing of the actions were taken as a sign the central bank was rethinking its "wrong-headed" theory, as Mr Braverman described its earlier stance on short term rates. Thus, it seemed unlikely the Fed will increase its discount rate in the immediate future.

The stock and bond markets got a little edgy last week about the views on inflation and interest rates expressed by Mr Alan Greenspan, Fed chairman, and Mr James Baker, Treasury Secretary. They both insisted that present interest rates were based on far too pessimistic forecasts of inflation and once the market realises that, interest rates will fall.

The trouble is, the market does realise that. But Washington and Wall Street are not hearing each other very well at the moment. Some decisive actions and clearer words are

US Treasury yields



Source: Technical Data

needed from the Fed and Treasury to reassure Wall Street that everyone is one the same wavelength.

Lots of investors agree than bonds are a steal at 10 per cent, particularly when the stuffing is being knocked out of stocks. But next to nobody dares to buy bonds because they worry that interest rates are heading a bit higher, perhaps to around 10.5 per cent, in the short term because monetary policies and interest rates appear to be firming further in Japan and West Germany. "Nobody wants to be a hero," one shell-shocked bond trader said last week

* * *

The following are the important economics statistics due for release this week, with in most cases a consensus forecast and range of market estimates surveyed by Money Market Services of Redwood City, California:

●Capacity utilisation in September, due for release this morning, should be unchanged from 81.3 per cent a month earlier. Although some economists are concerned that the high level of plant utilisation is potentially inflationary, the statistical series has lost some of its credibility because of the extensive restructuring of US industry in recent years.

●September's housing starts, due tomorrow, are expected to show a slight slippage to 1.55m from 1.58m in August. The range of 39 estimates is 1.4m to 1.65m. Sharply rising mortgage interest rates are likely to further depress construction in coming months.

●Friday brings a collection of September statistics, most important of which is the preliminary estimate for third quarter gross national product. A growth rate of 3 per cent at an annual rate is expected, up significantly from the second quarter's 2.5 per cent but down from the first's 4.4 per cent. The first quarter benefitted from some activity postponed from the fourth quarter because of tax reform.

●The consumer price index is expected to rise 0.4 per cent from August's 0.5 per cent gain, with a range of forecasts running from plus 0.2 per cent to plus 0.5 per cent.

●Durable goods orders are forecast to have grown by 1 per cent in September, with estimates ranging from minus 0.2 per cent to plus 5 per cent. A high rate would add to the market's nervousness about brisk economic activity stimulating inflation.

●Personal income is expected also to show a 0.4 per cent gain from August, with forecasts ranging from plus 0.1 per cent to plus 0.7 per cent. Personal consumption is expected to have fallen 0.1 per cent from August, with forecasts ranging from minus 0.8 per cent to plus 1.2 per cent.

Roderick Oram

US MONEY MARKET RATES (%)

	Last Friday	1 week ago	4 wks ago	12-month High	12-month Low
Fed Funds (weekly average)	7.63	7.48	7.21	11.54	5.88
Three-month Treasury bills	6.96	6.75	6.42	7.17	5.18
Six-month Treasury bills	7.80	7.32	6.68	7.45	5.29
Three-month prime CDs	9.80	8.60	7.45	8.28	5.67
30-day Commercial Paper	7.95	7.60	7.25	7.70	5.48
90-day Commercial Paper	8.75	8.25	7.38	8.05	5.57

US BOND PRICES AND YIELDS (%)

	Last Fri.	Change on wk	Yield	1 week ago	4 wk. ago
Seven-year Treasury	97½	-1¼	10.00	9.76	9.18
20-year Treasury	92⅝	-1¼	10.20	10.05	9.64
30-year Treasury	87⅝	-2⅝	10.19	9.93	9.54
New 10-year "A Financial	n/a	n/a	11.10	10.88	10.25
New "AA Long utility	n/a	n/a	11.30	11.15	10.75
New "AA Long industrial	n/a	n/a	11.25	11.10	10.65

Source: Salomon Bros (estimates).

Money supply: In the week ended October 5 M1 rose by $5.7bn to $757.2bn.

NRI TOKYO BOND INDEX

December 1983 = 100	5/10/87	Average yield (%)	PERFORMANCE INDEX Last week	12 wks ago	26 wks ago
Overall	132.05	5.95	132.85	136.58	139.36
Government Bonds	131.28	5.69	131.55	137.31	141.62
Municipal Bonds	133.42	6.14	132.94	136.70	139.32
Govt.-guaranteed Bonds	134.32	6.18	133.79	137.52	140.19
Bank Debentures	129.84	5.53	129.70	132.18	134.12
Corporate Bonds	132.78	6.36	132.85	136.49	136.99
Yen-denom. Foreign Bonds	135.53	6.96	135.95	140.12	138.26
Government 10-year†	6.39		6.29	5.13	4.35

† Estimated par yield

Source: Nomura Research Institute

FT/AIBD INTERNATIONAL BOND SERVICE

US DOLLAR STRAIGHTS	Issued	Bid price	Chg on week	Yield
ABN Bank 8½ 91	150	95¾	−0⅝	10.01
Aetna Life & Cas 7¾ 16	200	87⅛	−1¼	9.01
AHFC O/S Fin 11¾ 94	100	98½	+0¼	12.07
AIDC 11 89	75	100½	−0⅛	10.46
Alcoa Australia 11 92	80	98¾	−0½	11.32
American Exps 12⅝ 88	150	102½	−0½	9.92
Asian Dev Bk 11¾ 93	100	101⅝	−1⅝	11.42
Australia 11¼ 90	100	101⅝	−0¼	10.59
Australia 11¼ 00	100	98⅝	−2¼	11.47
Austria Zero 95	100	45½	−0⅛	10.78
Bk of Montreal 16¼ 91	250	—	—	—
Bank of Tokyo 8⅜ 96	100	83⅞	−1¼	11.43
Bank of Tokyo 11 90	125	100½	−1¼	10.71
Bank of Tokyo 11⅞ 90	100	102¾	−1¼	10.75
Bank of Tokyo 13⅞ 89	100	106⅛	−0⅛	10.20
Barclays Jersey 10⅛ 90	250	99½	−0⅞	10.33
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

	Issued	Bid price	Chg on week	Yield
Pru Rlty Secs 0 99	365	30	−⅛	11.29
Qantas Airways 8⅝ 96	97	85½	−2⅜	11.37
Quebec Prov 13 90	150	105⅝	−½	10.84
Queensld Gvt 11⅛ 89	100	102	−1⅛	10.25
Ralston Purina 11¼ 95	150	101½	−1¼	11.41
Reynolds R. J. 10¼ 93	100	97¼	−1⅛	10.79
Richardson-Vicks 11½ 93	125	103⅝	−⅜	10.68
Rockwell Int 9⅞ 90	200	99¼	−¾	10.14
Saskatchewan 7 91	125	92	−½	10.14
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

	Issued	Bid price	Chg on week	Yield
Newmont Mining 7 01	100	124	−3¼	9.47
Nippon Seiko 3¼ 99	70	199⅜	−5½	0.30
Rockefeller Centre 0 00	952	25⅛	−0⅝	−68.15
Southwest Air 6¾ 98	35	54¼	−1¼	69.73
Swiss Bank Corpn 6¼ 90	120	155	0	−9.79
Texaco Capital 11¾ 94	500	106⅛	−0⅞	40.02
Toshiba Ceramics 3 00	50	159	−6	−5.49
Xerox Corpn 5 88	75	96	−0¼	92.85

[illegible]

	Issued	Bid price	Chg on week	Yield
Olympia & York 8¼ 96	435	83⅛	−1½	11.39
Ontario Hydro 10⅞ 90	250	100¼	−⅝	10.08
Ontario Hydro 11⅛ 89	200	102⅝	−⅝	9.97
Ontario Hydro 11⅝ 94	200	103¼	−1⅝	10.88
Ontario Hydro 11¾ 90	200	103⅞	−¼	10.14
Ontario Hydro 13½ 91	100	108¼	−1½	10.43
Ontario Hydro 14⅜ 89	150	106⅝	−⅝	9.98
Ontario Hydro 15 92	150	115½	−1⅝	10.67
Pacific Gas & El 12 00	75	106¼	+¼	11.03
Penney J C 12¾ 91	100	105	−⅛	11.18
Pepsico Capital 8⅝ 91	100	94⅝	−2¼	10.27
Pepsico 7⅜ 93	200	85¾	−1⅝	10.88
Petro-Canada 7¼ 96	200	79½	−1¼	11.05
Philip Morris 9⅞ 98	200	91	−3	11.30
Postipankki 11⅛ 90	75	101⅞	−⅛	10.17
Procter & Gam 10 95	150	95⅝	−1⅞	10.84

CONVERTIBLE BONDS	Issued	Bid price	Chg on week	Prem
American Bankers 5¼ 01	70	89¼	−1¼	68.90
Canon 3 00	100	168	−13⅝	−0.41
Citizen Watch 3 00	50	184	−4	−0.01
Eastman Kodak 6⅜ 01	300	127¾	−3	−30.37
Elders UK 5 97	75	129⅛	−2⅞	−12.26
Fanuc 3¾ 98	80	327	−9	−0.16
Fujitsu 3 99	100	208	−6½	−0.41
Gibraltar Savings 7½ 06	100	81¼	−2⅛	39.58
IBM 6⅜ 96	300	—	—	—
IU Intl Corpn 6¼ 2002	75	102½	−3¼	16.12
Long Term Cred Bk 1¾ 02	200	102⅝	+0¼	−0.80
Lorimar-Telepics 6 01	100	84⅞	−1	112.13
Mitsubishi Bk 1¾ 02	300	100¼	0	−1.54

BOND WARRANTS	Expiry date	Bid price	Chg on week	Yield
Aegon Ins 11⅝ 91	15/2/88	13⅛	−5	10.84
Citicorp 8 96	1/10/88	5	0	7.92
Credit Suisse (Panama)	13/2/92	35	−5	10.66
Den Norske Crd 8¼ 96	8/8/89	7	0	8.13
Denmark 12¾ 92	31/1/90	56¼	−5⅝	10.98
Finnish Exp Cr 12¾ 91	21/11/89	57½	−3⅝	10.92
General Elec Crd 12 94	15/11/87	50	−5	10.94
McDonalds 11⅛ 94	5/1/89	15	0	10.76
Mitsubishi Fin 12⅝ 91	8/11/89	40⅝	−16⅞	11.31
Nordic Inv Bank 7⅞ 96	30/10/91	7	+1½	7.76
Westpac Bankg 12⅝ 92	31/1/90	50	−6¼	11.29
Weyerhaeuser C 11½ 90	15/11/87	15	+1⅞	10.39

STRAIGHT BONDS: Yield to redemption of the mid-price. Amount issued is expressed in millions of currency units except for yen bonds, where it is in billions. FLOATING RATE NOTES: US dollars unless indicated. Margin above six-month offered rate (‡ three-month; § above mean rate) for US dollars. C.cpn=current coupon. CONVERTIBLE BONDS: US dollars unless indicated. Prem=percentage premium of the current effective price of buying shares via the bond over the most recent share price. WARRANTS: Equity warrant prem=exercise premium over current share price. Bond warrant ex yld=exercise yield at current warrant price. Closing prices on October 16.

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INTERNATIONAL CAPITAL MARKETS & COMPANIES

TWA board approves Icahn offer

BY RODERICK ORAM IN NEW YORK

THE BOARD of Trans World Airlines has agreed to an improved offer from Mr Carl Icahn, its chairman, for the 27 per cent of the company's stock he does not already own. Approval clears the way for a vote on the offer by the minority public shareholders.

Mr Icahn raised his offer to $20 in cash and securities with a face value of $25 for each TWA share he does not at present own. His initial offer in July was $20 cash and $20 in securities. The offer values the whole of TWA at $1.35bn.

Shareholders will vote at a meeting expected to be held in December, TWA said. A committee of independent directors has evaluated the revised offer with the help of Dillon, Read, the investment banker.

The news boosted TWA's shares by $2.25 to a close of $31.75 on the New York Stock Exchange on Friday. They were one of the few stocks to withstand the onslaught of selling which rocked the markets as more than 1,700 issues fell and only 111 rose.

If minority shareholders agree to Mr Icahn's terms, he will merge his holdings into a newly created private company. He would control 90 per cent of its stock, with the balance held by employee stock ownership plans to be established for TWA's pilots and machinists.

The pilots and machinists' unions joined his successful effort to win control of TWA two years ago, after management had agreed to merge with Texas Air. TWA's cabin crew union rejected Mr Icahn's stringent cost cutting proposals and went on strike. He quickly reinstated service with new employees and some union employees, but technically the strike continues.

Mr Icahn, a noted corporate raider in recent years, was thought to be interested only in selling off TWA's assets after he had taken it over. But a severe plunge in the airline's fortunes and stock price forced him to manage the company. Wall Street sees his privatisation move as a way to unlock some of his subsequent gains from a revitalised TWA and to use them for other takeovers.

● American Airlines filed a $100m suit in Fort Worth, Texas, on Friday claiming that Texas Air had used illegal tactics to persuade travel agents to change to Texas Air's computer reservation system from American's.

American alleged in its suit that Texas Air threatened to drop commission bonuses to travel agents booking flights on its Continental and Eastern subsidiaries unless they joined the Texas Air computer system. Texas Air denied the allegations and said it would make a counter claim against American.

Through a series of aggressive takeovers in the 1980s, Mr Frank Lorenzo has turned Texas Air into the largest airline holding company in the US with roughly 25 per cent of the air travel market.

Saab raises forecast for year

By Our Stockholm Correspondent

SAAB-SCANIA, the Swedish automobile and aerospace group, reported a 7 per cent drop in profits for the period May to August at SKr 859m ($135.2m), compared with SKr923m the previous year, and *has revised its full-year forecast upwards* due to the strong performance of the truck division.

Mr Georg Karnsund, chief executive, said that full-year profits (before allocations and tax) would approach last year's level of SKr3.3bn, helped by the strong increase in truck sales this year.

Only last May, he had told shareholders to expect a drop in profits to the 1985 level of SKr2.9bn. Profits (before appropriations and taxes) had fallen 13 per cent to SKr947m in the first four months.

Group profits (before appropriations and taxes) fell 10 per cent to SKr1.806bn for the first eight months, compared with SKr2.012bn the previous year.

The decline is due to the lower dollar, but the group said that several factors had helped to compensate for the weaker dollar including higher sales, the use of higher capacity, a more profitable product mix – chiefly of trucks and up-market cars – and an improved currency balance.

More priority had been given to the Western European market where sales have increased by about 30 per cent in value over the last year.

In the first eight months, 39 per cent of group sales were in Western Europe compared with 35 per cent last year. Group sales in Sweden were unchanged at 33 per cent while group sales in the US slipped from 20 per cent to 19 per cent.

Group sales have increased by 14 per cent to SKr25.832bn. The Scania truck division sales alone increased by 19 per cent to SKr11.372bn, leading to an increase in profits.

The Saab car division sales increased by 12 per cent to SKr10.08bn, but the weaker dollar had a more serious effect on division profits, which were lower than in the corresponding period last year.

Analysts described the results as "a lot better than expected"

NEW INTERNATIONAL BOND ISSUES

Borrowers	Amount m.	Maturity	Av. life years	Coupon %	Price	Book runner	Offer yield %
US DOLLARS							
Taka-Qϕ◆	100	1992	5	3½	100	Nomura Int.	3.500
Hitachi Maxell§◆	70	2003	15½	1½	100	Nikko Secs (Europe)	1.500
Pinnacle West Cap.§◆	75	2002	15	10	100	CSFB	10.000
Bridgestone Corp.ϕ◆	100	1992	5	3⅛	100	Yamaichi Int.(Eur)	3.125
Seino Transport.ϕ◆	70	1992	5	3⅛	100	Daiwa Europe	3.125
Maruetsuϕ◆	70	1992	5	3½	100	Nomura Int.	3.500
Bell Resources§◆	550	1997	10	5½	100	Merrill Lynch	5.500
Korakuen Co.ϕ◆	50	1992	5	3¼	100	Yamaichi Int.(Eur)	3.250
Nisshin Oil Millsϕ◆	70	1992	5	3⅛	100	Nomura Int.	3.125
Intec Inc.ϕ	100	1992	5	(3⅜)	100	Nikko Secs (Europe)	*
Merrill Lynch◆	100	1989	2	10	101	Merrill Lynch	9.428
Toronto-Dominion Bank◆	200	1989	2	9¾	101	Goldman Sachs	9.180
Keio Teito El.R'wayϕ	100	1992	5	(3⅛)	100	Nomura Int.	*
Hokkai Can Co.ϕ	80	1992	5	(3¼)	100	Daiwa Europe	*
Matsuyadenki Co.ϕ	30	1992	5	(3⅜)	100	New Japan Secs.	*
CANADIAN DOLLARS							
First Austrian Bank	75	1989	2	11¼	101⅛	Banque Paribas	10.597
Nippon Tel.& Tel.	100	1992	5	11¾	101¼	UBS (Secs)	11.408
AUSTRALIAN DOLLARS							
Bell Resources§◆	200	1997	10	7¾	100	Merrill Lynch	7.750
ANZ Banking Group◆	50	1990	3	13¼	101⅛	ANZ Merchant Bank	12.671
D-MARKS							
People's Rep.of China◆	300	1992	5	6	100	Dresdner Bank	6.000
African Dev. Bank◆	200	1994	7	7	100	Deutsche Bank	7.000
SWISS FRANCS							
D'Or Val Mines§◆	35	1995	-	5⅞	100	Banque Indosuez	5.961
Continental Health◆	20	1995	-	(7)	(100)	Bqe Gutzwiller K.B.	*
Sandhurst Mining§(a)	20	1994	-	(6)	(100)	Bqe Gutzwiller K.B.	*
National House Ind.++§◆	100	1993	-	0	100	Credit Suisse	—
Pokka Corp.++§◆	50	1993	-	⅜	100	Credit Suisse	0.375
Hayes Resources§	60	1992	-	(5⅛)	100	Banque Indosuez	*
Healthvest§	¥40	1994	-	(4)	100	Warburg Soditic	*
Mori Denki Mfg.++◆	30	1992	-	5½	100	Credit Suisse	5.500
OKB++◆	50	1992	-	5⅛	99¾	SBC	5.183
Southmark Corp.ϕ(c)	¥50	1992	-	(6¼)	104	Bqe Paribas(Suisse)	*
Premier Can.Oilϕ++◆	50	1994	-	4¾	100	UBS	4.750
STERLING							
Bell Resources	50	1997	10	4¾	100	Merrill Lynch	4.750
TMC Mort.Secs.4‡(b)◆	100	2015	5-7	37½bp	100	Salomon Brothers	—
Ratners Group§◆	44	2002	15	4	100	Morgan Grenfell	4.000
Finnish Export Cr.◆	50	1993	5½	10⅝	101⅝	Chase Inv.Bank	10.193
Avis Inc.§(d)	50	2002	15	(4¾-5)	100	Kleinwort Benson	*
GUILDERS							
SBC Financeϕ◆	200	1994	7	4½	100¼	SBCI Holland	4.458
LUXEMBOURG FRANCS							
TVO Power++◆	300	1992	5	7⅜	100	Credit Europeen	7.375
CCF++◆	300	1993	6	7½	100	Caisse d'Epargne	7.500

*Not Yet priced. ◊With equity warrants. ‡Floating rate note. ++Private placement. ◆Final terms. ϕCurrency-linked. §Convertible (a)Double convertible into stock or gold cash equivalent. (b) 37½bp over 3m Libor - after 10 years coupon 50bp over 3m Libor. (c)Exercisable into shares of National Heritage. (d) Convertible into shares of Avis Europe. Note: Yields are calculated on AIBD basis. ¥Minimum.

Advanced Micro in Finnish deal

By Our San Francisco Correspondent

ADVANCED MICRO Devices, a leading US semiconductor manufacturer, has reached a long-term co-operative agreement with Micronas of Finland for the manufacture and marketing of integrated circuits for the telecommunications industry.

Initially, the two companies plan to introduce jointly a single chip modem circuit, a device that could replace the circuit boards widely used to link computers to telephone lines.

AMD, which has established a strong position in the US telecommunications markets for semiconductors, aims to expand its European market through the agreement. For Micronas, which is majority owned by Nokia, Finland's largest industrial company, the agreement represents an opportunity to broaden its market opportunities outside Europe.

Since its recent acquisition of Monolithic Memories, a neighbouring Silicon Valley semiconductor manufacturer, AMD has claimed the title of the largest exclusive manufacturer of integrated circuit "chips" in the world. The company ranks as the fifth-largest US semiconductor manufacturer.

Micronas was founded in 1980 and specialises in the design and manufacture of integrated circuits for telecommunications and instrumentation applications.

Swedish Match expects increased annual profit

BY SARA WEBB IN STOCKHOLM

SWEDISH MATCH, the Swedish conglomerate and the world's leading match manufacturer, reported a 46 per cent increase in profits (after financial items) for the first eight months at SKr287m ($45.2m), helped by higher profits from its flooring, door and packaging subsidiaries.

The group expects full-year profits after financial items to show an increase on the 1986 figure of SKr500m and said that results for the period September to December will be on the same level as last year.

Group sales in the first eight months rose by 44 per cent due to the acquisition of Pegulan, the West German flooring group, and Wilkinson Sword, the matches, tools and shaving products manufacturer. Taking comparable units, however, the increase in sales was 4 per cent.

Tarkett, the flooring division, showed an 87 per cent increase in operating profits at SKr187m, while sales increased by 126 per cent to SKr3.71bn.

The increase was chiefly due to the acquisition of Pegulan, which is now being integrated, though profitability at Tarkett's hardwood flooring division has improved.

The consumer products division, which makes matches, lighters and paper products, reported a 51 per cent plunge in operating profits to SKr52m as a whole, even though the acquisition of Wilkinson Sword has improved the operating results with effect from April.

Consumer product sales increased by 35 per cent to SKr2.89bn, but the market for disposable lighters is still facing tough price competition and while production was restructured at the start of 1987, productivity is still not satisfactory, the group said.

Swedoor, the doors division, increased operating income from SKr38m to SKr40m, and said income was affected by a wildcat strike. Sales rose by 10 per cent to SKr679m and the division has made large investments in modern production technology.

Return on capital employed fell from 13 per cent to 10.5 per cent, due to the lower profitability of the consumer products group and lower rate of return on the acquisitions.

Texas Instruments well ahead

BY LOUISE KEHOE IN SAN FRANCISCO

TEXAS INSTRUMENTS, the US electronics and semiconductor manufacturer, reported a dramatic earnings increase for the third quarter and announced plans to strengthen its position in the factory automation market through a $65m acquisition.

TI's net income for the third quarter rose to $69m, or 79 cents a share, from $14m, or 14 cents, in the same period last year when TI's semiconductor operations were severely affected by an industry-wide recession.

Sales were $1416m, up 13 per cent from the third quarter of last year.

Announcing its quarterly results, TI also revealed plans to acquire the control systems and industrial systems businesses of Rexnord Automation, a subsidiary of Banner Industries, for $65m in cash. The acquisition is seen as part of TI's strategic thrust into the factory automation market in which it aims to become a major player.

TI's key semiconductor business was, however, largely responsible for the improved third-quarter earnings, the company said.

Net income for the nine-month period was $215m or $2.53 a share.

Toronto bank buys broker

BY DAVID OWEN IN TORONTO

TORONTO-DOMINION, the fifth-largest Canadian bank, has boosted its share of the domestic discount broking market to about 50 per cent by acquiring Gardiner Group Stockbrokers of Toronto for an undisclosed sum.

The move is the latest in a string of deals between major banks and Canadian investment dealers in response to the deregulation of the domestic financial services industry earlier this year.

Unlike its competitors which have opted for high profile purchases of full-service brokerage houses, the Toronto bank has concentrated on building its presence in the discount broking sector through its Green Line Investor Services unit, established in 1984. Gardiner's 11 branches and 100 employees will be integrated into the existing Green Line network.

The acquisition will give the bank a floor trading presence on the major Canadian stock exchanges. Also of interest, according to Mr Keith Gray, Green Line president, was the discount broker's established expertise in options trading. The bank bought seats on the Toronto, Montreal, Vancouver and Alberta stock exchanges earlier this year.

The merged operations of the two entities will account for at least 5 per cent of transactions on the Toronto Stock Exchange, Mr Gray added.

UK COMPANY NEWS

David Waller looks at the changing fortunes of a former department store

Parrish thrives on corporate generosity

BIG BANG has been good for Parrish, the former Newcastle department store which is now the only independently quoted stockbroker on the London Stock Exchange. The Swiss *Bank Corporation International* has been even better.

In what appears to be an act of unprecedented corporate generosity, SBCI earlier this month gave Parrish the private client business acquired when it bought Savory Milln in May. Parrish paid nothing to acquire a team of 25 specialist brokers, 5,000 clients and funds under management of more than £200m.

Undeniably a coup for Parrish, this new business is likely to add £2.5m to its gross commission income in a full year and boost next year's pre-tax profits by £1m.

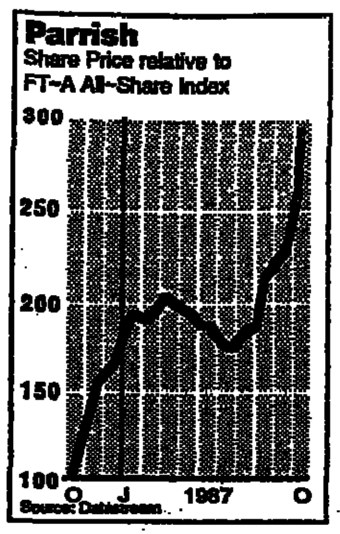
The reasons for SBCI's magnanimous behaviour have not been disclosed, but it clearly wanted to divest itself of Savory's retail business without causing offence to 5,000 prosperous and probably influential clients.

A good home was required, and Parrish fitted the bill as a broker which has chosen to concentrate exclusively on the private client.

"We were given a thorough going over," says Mr Keith Hughesdon, Parrish's chairman, and SBCI's vote of confidence in the group has done much to vindicate its strategy in the eyes of the City. In recognition of this, the shares have soared this month from below 700p to an all-time high of 830p.

At this price, the company has a market capitalisation of nearly £50m, more than four times as much as a year ago and 50 times its value in the summer of 1985, when the company's sole asset was a loss-making department store on Shields Road, Newcastle.

It was then that Mr Hughesdon and Mr Peter Bainbridge, both former directors of Mercantile House, took a joint 15 per cent stake. News of their presence sent the shares into the stratosphere and, in a classic shell operation, they used the highly rated paper to make a spate of acquisitions.



Peter Bainbridge, managing director (left) and Keith Hughesdon, chairman of Parrish.

In the month of Big Bang, they bought two long-established stockbroking firms for a total of £1.2m; in January, they spent a further £1.9m in buying another two firms, as well as a small fund management business and a team of private client brokers from Chase Manhattan.

Following the unusual transaction with SBCI, Parrish will have some 35,000 private clients serviced by 125 stockbrokers, affectionately known as Parrish counsellors, at offices in Cirencester, Bournemouth, Colchester and the City of London. Funds under active, discretionary management will amount to more than £400m.

Despite the fact that the duo were *not professional stockbrokers*, they intended to apply the lessons learnt in money and currency markets to equities. They decided to avoid market-making and focus their resources on agency broking for the well-heeled private client.

"Whoever heard of private clients ganging up against you?" said Mr Hughesdon, "our experience of the money markets suggested that big institutional clients would be all too capable of doing so."

They reasoned that in the post-Big Bang maelstrom, commission income derived from institutional clients would tumble as a result of sharply increased competition. It did, as parsimonious fund managers pared what they paid down to the bone.

By contrast, commissions paid by private clients have remained at their pre-Big Bang levels. Happily for brokers like Parrish, deregulation coincided *with a bull market* and the Government's great drive for popular share ownership, and the volume of business conducted for private investors has risen as sharply as that for institutions.

Parrish has preserved its commission structure intact and is now set to increase its minimum charge per bargain from £20 to at least £50. This is to discourage the very smallest private investor, for example, he who wants to offload his BP allotment later this month. Such business is simply unprofitable.

The ideal client likely to have between £100,000 and £1m available for investment. "Typically, he is likely to be a successful businessman who has no worries about income," says Bainbridge. "He backs his own judgement and takes an aggressive stance towards his portfolio. He is unlikely to be worried about how much commission he *pays*."

Finding new clients is not a problem, contends Mr Hughesdon. Brokers are regularly knocking on the door of Parrish's City headquarters, appropriately in the Old Rectory, Martin Lane, and with them come the *clients*.

There is no need to advertise for clients or brokers as specialist private client executives clamour to escape the inhospitable environment of the integrated securities house, where wholesale business will inevitably take precedence over the humble private client - as so well demonstrated by SBCI's action earlier this month.

The success of the strategy was demonstrated earlier this month when Parrish released *its interim figures* and declared its intention to pay a dividend for the first time since 1982.

Pre-tax profits amounted to £993,000 on gross commission income of £6m, against profits of £548,000 for the whole of the year to the end of January, and £13,000 in the first half last year. Brokers are now forecasting profits of £1.8m in the year to January 1988, and £4m in the following year.

These forecasts take no account of the growth Parrish is likely to enjoy as more disaffected private client brokers join the ranks of the Parrish counsellors.

With the administrative infrastructure now in place, there is plenty of scope for economies of scale as Parrish acquires brokers but not their back-offices.

The shares are on a heady prospective p/e of over 40 for the year to January. This falls to just below 20 for the following year - but if the bull market does peter out, the growth implied in that sort of rating *would be difficult to sustain*.

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether the dividends are interims or finals and the sub-divisions shown below are based mainly on last year's timetables.

TODAY

Interims - Aitken Hume Intl, Ferguson Ind Hldgs, Lenca, New Ireland Assurance, Scanro Hldgs. Finals - Barratt(Henry), Edinburgh Inv Tst, GR Holdings, Highland Distilleries, Lowland Investment, Sinclair(Wm), Wolseley.

FINANCIAL TIMES STOCK INDICES

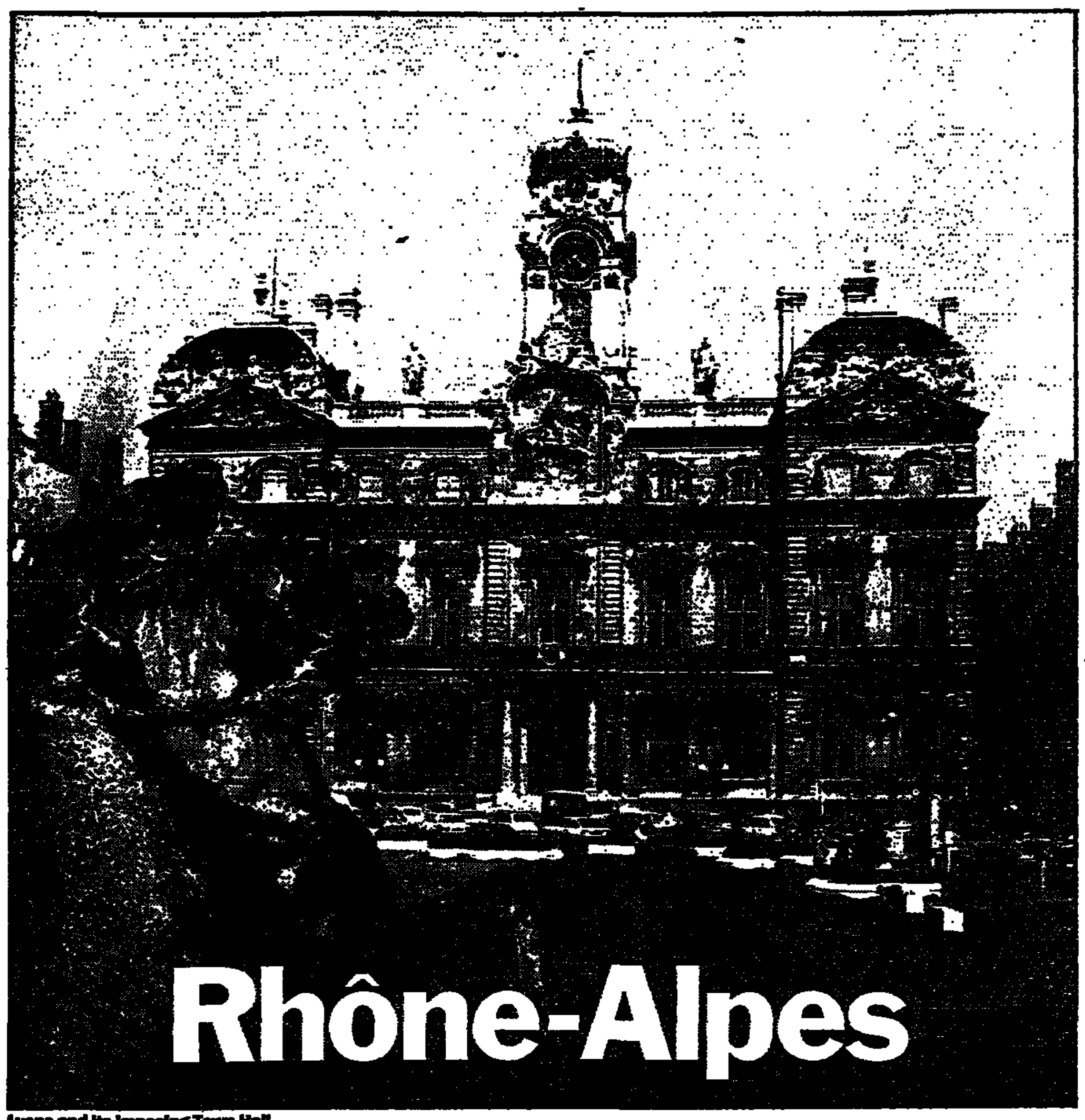
	Oct. 15	Oct. 14	Oct. 13	Oct. 12	Oct. 9	Oct. 8	1987 High	1987 Low	Since Compilation High	Since Compilation Low
Government Secs.	84.90	85.65	85.78	85.63	85.49	85.68	93.32	84.49	127.4	49.18
Fixed Interest	91.50	91.67	92.27	92.24	92.20	91.88	99.12	90.23	150.4	50.53
Ordinary	1812.9	1834.7	1847.4	1835.2	1858.2	1866.9	1926.1	1320.2	1926.2	49.4
Gold Mines	436.3	438.2	447.6	452.3	449.5	445.8	497.5	288.2	734.7	43.5
FT-Act All Share	1189.92	1199.58	1210.87	1205.17	1216.26	1218.65	1238.57	835.48	1238.57	61.92
FT-SE 100	2301.9	2322.9	2350.2	2338.5	2366.5	2375.5	2443.4	1674.5	2443.4	986.9

FINANCIAL TIMES

SURVEY

The region, as big as Switzerland, is a rich but diverse economic, social and cultural mix. The next few years will be crucial as it attempts to build on initial steps aimed at carving out a strong independent identity. Paul Betts reports

In search of an identity



Rhône-Alpes

Lyons and its imposing Town Hall

CONTENTS

THE RHONE-ALPES has often felt a bit like Raymond Poulidor, the French cycling hero of the Sixties and the Seventies who was forever coming second in all the great races.The region, as big as Switzerland and larger than Belgium, has always been the country's second most important economic centre after Paris.

Three times closer to Geneva than to Paris, Lyons, the old capital of Gaul, has also suffered from an Avis complex as France's second biggest city. One Frenchman out of ten lives in this large diverse region which spreads from the vineyards of the Rhone across to the peaks of the Alps.

Better off than the majority of the country - the unemployment rate is 1.5 times lower than the national average - the region has also suffered from an identity problem. With its mountains in Savoy at one end, its old industries around St Etienne and the Loire at the other side, its lavender fields and Mediterranean agriculture in the south and a network of high technology, financial, services and manufacturing industries in the central axis between Lyon and Grenoble, not to mention its wines and gastronomic fame, the Rhone- Alpes is a rich economic, social and cultural mosaic. But this mosaic is also one of its handicaps for as one local government official in Lyon acknowledged "the region has no real cultural identity."

The next few years are likely to be critical for the future development of the region and its ability to carve out finally for itself a strong independent identity of its own. But the challenge is not limited to the Rhone-Alpes alone but to the country as a whole.Indeed, the Rhone-Alpes perhaps more than any other French region is becoming a test case of decentralisation in a country which despite recent regionalisation efforts remains highly centralised.

"Paris remains the capital of the Rhone-Alpes and Lyons has yet to emerge as the real regional centre," explained a leading Rhone-Alpes councillor."Even though there is a lot of decentralisation talk in Paris, the capital remains all powerful. The trouble for us is that when Lyons or Grenoble or Chambery has a problem they will invariably deal directly with Paris and not resolve it on a regional basis since most of the strings are still in the capital.+

But the region is anxious to change this state of affairs, especially with the advent of the unified European market in 1992. Regional officials believe that after 1992 Paris has little chance of remaining the only capital of France. "If we fail to create a genuine new regional capital there is a serious danger that French regions like the Rhone-Alpes will come under the influence of neighbouring countries like Italy or Switzerland," said another official.

Supporters of decentralisation in France argue that it is now becoming increasingly important for the country to promote strong regional entities with the necessary economic weight and influence to become major centres of influence when the unified European market of 1992 becomes a reality.

They also believe that the Rhone-Alpes is of all French regions in the strongest position to become such a centre since Alsace or Toulouse are too small, the Nord Pas de Calais too close to Paris and the Marseilles area to weak as a result of the economic decline around its harbour.

Moreover, the Rhone-Alpes has a number of undeniable assets to turn it into a major regional centre not only in a French but in a broader European context. Geographically, it is close to the Swiss and Italian financial centres as well as the Italian industrial heartland around Turin and Milan. Lyons is already developing into an increasingly important regional financial centre although it remains a dwarf compared to Paris.

But the region believes that Lyons by specialising in the financing of small and medium sized enterprises can eventually become an important European financial centre for these smaller concerns to raise fresh capital. Already, Lyons has taken a lead in France in developing during the last few years a thriving over-the-counter or second market.

The region also has a strong economic infrastructure thanks to the diversity of its industries.Grenoble has become one of the country's leading technological centres attracting major French and international high tech companies as well as forging close links between these industries and the area's educational institutes.

In the Lyons area, the traditional textile and truck manufacturing activities, which two decades ago were the region's dominant industrial employers, have successfully been undergoing major redeployment and restructuring.The financial recoveries of the French Rhone-Poulenc chemicals and fibres group as well and of the Renault Vehicules Industriels (RVI) truck manufacturing concern are an eloquent reflection of the way in which the region has adapted to changing industrial circumstances.

The same has been the case of the old coal mining activities around St Etienne, which of all the main cities in the region has perhaps suffered most from the decline of traditional industries. But St Etienne is now making an effort to develop alternative industries concentrating on robotics and factory automation.

The search for new specialised market niches has been one of the main policy priorities of the region."We cannot simply exist because we do a bit of everything," explained a regional council official. "If we want to give the region a European dimension we must develop what we call in French a number of 'creneau d'excellence' or niches of excellence.

This has already been translated with the development of nuclear and other high-tech research and industrial activities around Grenoble, the specialisation approach of the Lyons financial markets, and the development of a strong educational infrastructure in the region. This policy has also increasingly attracted foreign companies to the area as well as multinational organisations.

Interpol, for example, recently moved its headquarters down from Paris to Lyons. And Grenoble rather than the competing scientific centre of Strasbourg was chosen as the home for a US$100m European X-ray research complex.

The flexibility of the region to adapt to changing circumstances has been one reason for the better than average performance of the Rhone-Alpes economy.

But its is the region's communications links which offer the greatest potential to turn the Rhones-Alpes into a major European economic and transport hub. Lyons is already barely two hours away from Paris by TGV, the French high speed train system which has revolutionised rail travel in the country. The region now hopes that the TGV will soon link Lyons' Satolas airport to help transform it into a major international airport capable of competing against Geneva or even Paris.

The region is also campaigning for the construction of a FFr 15bn canal to connect the Rhone and the Rhine. The project would place the Rhone-Alpes at the centre of a water transport system linking the North Sea with the Mediterranean.

There are also a number of new ambitious motorway projects not only to improve local road links but to develop a major new East-West European road axis to connect Switzerland, Italy and Germany with the West of France and Spain. The Rhone-Alpes would thus find itself not only in the middle of a major North-South European transit axis but also of a new cross European East-West system.

The region is now all the more bullish about these projects and its prospects because of the huge impact the 1992 Winter Olympics in Savoy is likely to have on the area as a whole - not only in terms of the international publicity the winter games will give the region - but the stimulus they will provide to develop new infrastructures and regional tourism.

Politically too, the Rhone-Alpes is now likely to adopt a much higher profile on the French political scene than in the past.

Several political heavyweights are based in the area including Mr Raymond Barre, the former prime minister and one of the favourites to win next spring's French presidential elections.

The region is also the home of several other leading right and left wing politicians including Mr Michel Noir, the foreign trade minister, and Mr Alain Carignon, the environment minister, on the right, and on the left, Mr Charles Hernu, the former socialist defence minister, Mr Louis Mermaz, the former socialist president of the French National Assembly, as well as Mr Charles Fiterman, the former communist transport minister.

The far more active political role the region now intends to play at the national level reflects its efforts to carve out for itself a strong regional identity of its own.

But before it can hope to achieve this, it will have to overcome the intense local regional rivalries, especially between cities like Lyons and Grenoble, which have so far bedevilled the Rhone-Alpes and prevented it from showing a strong common regional front against Paris.The success of decentralisation in this key region of France will ultimately depend on its ability to put its own regional house in order.

Lyons as a financial centre

Confidence is restored

LYONS MAY have given its name to France's third largest bank, but 15 years ago, the city was on the verge of collapse as a financial centre.

The revitalisation has been most obvious in Lyons' stock exchange, saved from years of decline to become an active market particularly strong in small and medium sized companies. But the city has also benefited from the relaunch of a range of banking and financial engineering activities which have served as a support for the expansion of the region's enterprises.

For Mr Gilles Brac de La Perriere, a Lyonnais by birth who returned to his native city in 1974 as managing director of Lyonnaise de Banque - now part of the state-owned CIC banking group - all that was needed was a little self-belief.

"What immediately struck me was that this important historical town was frustrated, decapitated of all its main company headquarters, lacking in self-confidence, but it had all the necessary assets to become a city in the top rank," he says.

"We had to escape from a situation that was completely suffocated by centralism."

In breaking out of this suffocation Lyon has been helped by the growing internationalisation of financial markets. Sited just across the border from Geneva, the city was well placed to form direct links with the markets of Switzerland and the rest of the world, by-passing financing circuits that had traditionally all passed through Paris.

This decentralisation did not go uncontested. A number of leading French bankers took the view that even Paris was already too small a financial centre on the international scale, and that development should be concentrated there.

But the interests of decentralisation coincided with those of improving the access of smaller companies to equity capital.

"By focusing available savings on a few dozen shares quoted in Paris and in the major world markets a situation has been created which seriously prejudices the financing of the medium sized company," concluded a 1975 working party on the problems of financing regional companies.

The development first of the special compartment of the 'hors-cote' or over-the-counter market, and then, in 1983, of the Second Market, opened the way for the revival of the Lyons bourse.

Since the 1960s, the Lyons stock market, like its counterparts in Marseilles, Nantes, Bordeaux, Nancy and Lille, had been waning steadily, losing listings and turnover to the main stock exchange in Paris.

From 114 listed companies in 1970, Lyon could count only 51 in 1980, with a combined market capitalisation less than 1 per cent of that of Paris. If Lyons' market capitalisation is still only 1.25 per cent of Paris's, it has none the less seen a sharp revival in new stock market flotations and in trading turnover.

The symbolic turnaround came in 1977, when the toymaker Majorette, based in the Lyons suburbs, chose to be floated on its home stock exchange.

With 37 companies on full listings, Lyons also had 33 companies on the second market by the end of last year. Total equity market turnover has multiplied by ten in four years from FFr 630m in 1983 to FFr 6.63bn last year - 46 per cent of it in the second market.

Bond market turnover has also risen, though less spectacularly, climbing from FFr 9.44bn in 1983 to FFr 25.38bn last year.

Majorette is still one of the major companies on the Lyons exchange, with turnover of around FFr 1m a day, and has spawned an entire specialised sector. Toymakers from outside the normal Lyons catchment area, with their headquarters in Paris, are now considering a flotation on Lyons second market since they feel that it is there that their industry is most closely followed.

Mr Jacques Bonnet of the University of Lyons, notes in a recent book that not one of the five largest companies listed on the Lyons market in 1966 is still there today: Souchon Neuvesel merged with Boussois to form what is today France's largest food group, BSN; AEC Commentry was swallowed up by the state-owned chemicals group Rhone-Poulenc; Compagnie Lyonnaise Immobiliere moved to Paris; Manufrance collapsed; and Societe Lyonnaise was nationalised in 1982.

The success of the second market, however, has been such that some now question whether it still fulfils its role of providing a way into the equity markets for smaller companies.

"Access to the second market is now reserved to companies with a capitalisation of around FFr 100m or more. It seems to me that we should now be looking at an over-the-counter or third market to give that access back to smaller enterprises," says Mr Brac de La Perriere, who with his deputy Mr Louis Thannberger, first at Lyonnaise de Banque and now at their newly created securities house Financiere de Lyon, is widely credited with being the driving force behind the development of the second market in the first place.

The idea of a third market has also been supported by Mr Michel Noir, minister for foreign trade in the Government of prime minister Jacques Chirac and a Lyonnais himself.

The vitality of the second market, however, has provided a helpful boost to other financial institutions. The Societe de Developpement Regional du Sud-Est, the regional development authority founded in 1955, for example, has been enabled by the market to turn over its portfolio of development capital investments more rapidly by placing them on the Lyon bourse.

"The SDR du Sud-Est, which had remained merely a loan collector until 1977, has now at last become a real investment, with a clientele formed principally of small industrial companies," says Mr Bonnet.

Alongside the SDR, a new regional risk capital company, Siparex, was formed in 1977.

"The capital was difficult to raise at the time. We said to ourselves that we would not start if we did not get FFr 50m, and in fact we raised FFr 55m," recalls Mr Brac de la Perriere.

Siparex, which has been recording significant profits growth, raised its capital earlier this year to FFr 313m, bringing in among other new investors Barclays Bank of the UK.

Its major success to date was Salomon, the ski bindings producer which was on the point of trying to diversify into ski boot manufacture – an area in which it is now the world's number two behind Nordica of Italy, with an 18 per cent market share.

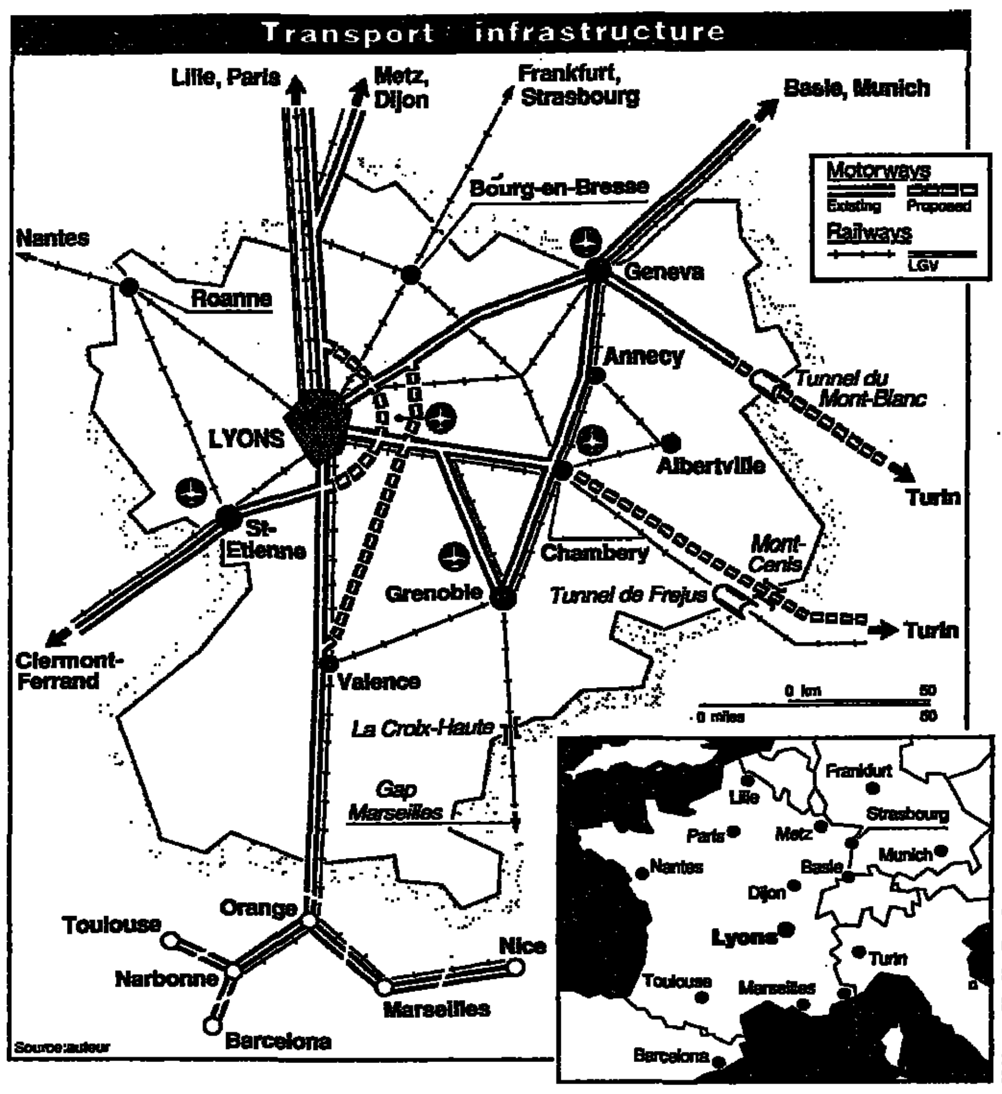
Salomon is now the most actively traded share on the Lyons stock exchange – or, indeed, on any French regional stock exchange – with daily turnover in 1986 averaging FFr 6.05m.

The traditional banks were perhaps a little slower to catch on, but beginning with Credit Commercial de France and Banque Nationale de Paris - France's largest commercial bank - they too began to develop their regional implantations into something more than just lending outlets, adding corporate finance skills to their Lyons offices.

Despite its name, Credit Lyonnais was one of the slowest to react to the new vitality of Lyons as a financial centre, but it too was gradually converted to the idea of regionalisation and has now developed its Lyons offices into a major centre with their own direct international links. In the last five or six years, too, it has given a major boost to the Lyons bourse by listing most of its new bond issues there.

George Graham

Transport infrastructure



St Etienne

Regional Cinderella

WHEN YOU first drive into St Etienne, the third biggest city in the Rhone-Alpes region after Lyons and Grenoble, you can see everywhere the scars of industrial reconversion. St Etienne, with its 320,000 inhabitants, is today the Cinderella of the Rhone-Alpes after being one of France's most dynamic industrial regions in the past century.

The dark coal pits are still there to see as well as the 19th century abandoned factories, symbols of the area's past industrial glory. Once a key steel and metals, coal, firearms and cycle manufacturing centre, the city and its surroundings have faced the full impact of the decline of these industries.

On the walls along the main arteries leading into the city, there are all the characteristic signs of painful industrial restructuring and economic reconversion. There are union slogans opposing steel plant closures and others either condemning or supporting Jean Marie Le Pen, the French National Front leader whose popularity has been rising in France especially in popular areas where jobs remain the main preoccupation.

Indeed, Mr Le Pen's success has been especially noticeable in troubled industrial areas where the Communist popular vote has swung round to the Front with the steady decline in influence of the French Communist Party. But if the first impression of St Etienne is that of a city hit by the collapse of its traditional industries, the area is now making a brave comeback by succesfully developing new industries and promoting job creating investments through a battery of fiscal incentives.

The fruits of these efforts are starting to show. The area is now developing an expertise as a centre of factory automation and robotics focused around a US$4.1m regional factory automation institute known as the "maison de la productique de St Etienne". It has also developed industrial zones to attract French and foreign enterprises to set up job creating plants in the area.

Renault's large truck manufacturing subsidiary, Renault Vehicules Industriels (RVI), has for example established a so-called flexible workshop for its gearbox manufacturing operations in the area. The automated plant reflects both the regional efforts to develop new high-tech activities in the area as well as the major efforts deployed by the French state car and truck group to improve productivity through automation in its broad recovery programme.

Among the large foreign groups to have been attracted by St Etienne is Union Carbide. The US chemicals group had at first considered going to the Lyon area but was then lured to St Etienne by the city's investment incentives and its general atmosphere and environment. Unilever too chose the area to set up an automated yoghurt production line.

But the city's most indigenous multinational is the French Casino supermarket group which continues to be headquartered in St Etienne despite its extensive national and international operations. Rockwell and Schlumberger are also in the area as are the two US food giants Beatrice and Quaker Oats.

Casino, unlike so many other French groups which have grown from modest regional origins into multinationals, has so far preferred to maintain its strong local links rather than move its headquarters to Paris.

Despite the difficulties of industrial reconversion, St Etienne has also managed to attract new activities because of its central geographical position and its good communications. Indeed, it is intricately connected with the broad communications and industrial network which revolves all around Lyons.

And the growing economic importance and development of this region is having an inevitable spill-over effect on St Etienne.

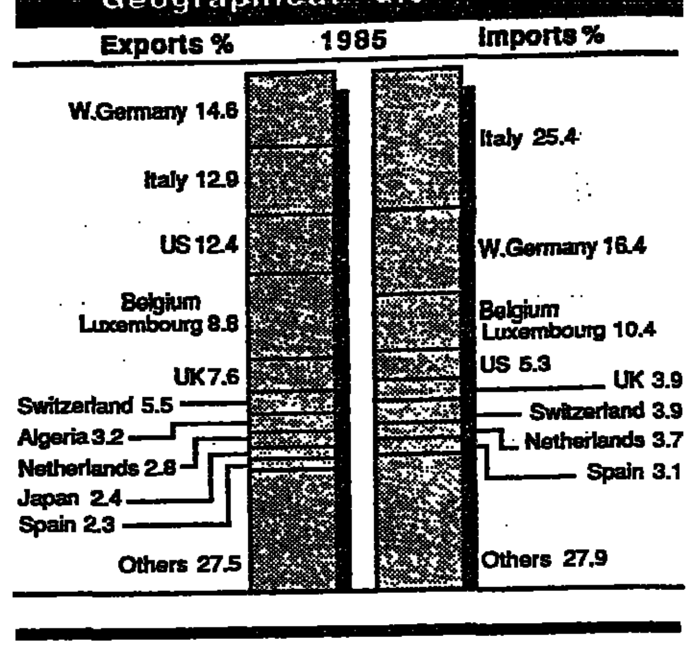
But perhaps the most striking characteristic of the area, which differentiates it from its bigger regional rivals, Lyons and Grenoble, is the intense sense of 'Stephanois' solidarity to their city and its difficulties.

This strong community spirit has helped St Etienne attempt to overcome the hurdles of its latest industrial and economic reconversion. And nowhere is this special spirit more evident than in the city's popular sport enthusiasm.

St Etienne, like other old coal and steel industrial cities, has always had one of the most successful and popular soccer teams in France. Indeed, it may be no coincidence that St Etienne with its 'verts' or greens as its team is popularly known is staging a recovery in the French first division league while the clubs of Lyons and Grenoble, its better endowed and bigger rivals in the Rhone-Alpes region, linger in the second division.

Paul Betts

Geographical distribution



Trade balance of regions

Compared to France as a whole

	1979	1980	1981	1982	1983	1984	1985
Rhône-Alpes	116.1	106.1	108.5	106.0	116.6	119.9	124.5
France	90.7	82.3	84.0	80.0	86.8	89.7	90.4

Comparison of regional imports

	value of imports in FFr(m) Rhône-Alpes	France	share of imports as % of whole régional	national	%
Agricultural products	1,965	52,848	2.6	5.5	3.7
Agricultural and food industry products	3,934	67,355	5.3	7.0	5.8
Raw mineral materials	336	10,596	0.5	1.1	3.1
Metals	14,682	91,927	19.8	9.5	16.0
Chemical products	12,960	135,304	17.4	14.0	9.6
Professional equipment goods	11,766	171,980	15.8	17.9	6.8
Household goods	1,523	19,496	2.0	2.0	7.8
Passenger car equipment	4,012	36,262	5.4	3.8	11.0
Spare parts and transport materials	3,106	31,703	4.2	3.3	9.8
Consumer goods	10,849	128,720	14.6	13.4	8.4
Miscellaneous	206	2,999	0.3	0.3	6.9
Total without energy	65,339	749,190	87.9	77.8	8.7
Energy products	8,973	213,555	12.1	22.2	4.2
Total	74,312	962,745	100.0	100.0	7.7

Comparison of regional exports

	value of exports in FFr(m) Rhône-Alpes	France	share of exports as % of whole régional	national	%
Agricultural products	3,232	74,442	3.5	8.5	4.3
Agricultural and food industry products	2,869	76,550	3.1	8.8	3.7
Raw mineral materials	95	2,092	0.1	0.2	4.5
Metals	22,358	105,906	24.2	12.2	21.1
Chemical products	17,870	137,639	19.3	15.8	13.0
Professional equipment goods	22,010	198,563	23.8	22.8	11.1
Household goods	1,101	10,245	1.2	1.2	10.7
Passenger car equipment	382	48,836	0.4	5.6	0,7
Spare parts and transport materials	4,872	51,234	5.3	5.9	9.5
Consumer goods	13,835	123,344	14.9	14.2	11.2
Miscellaneous	1,225	8,965	1.3	1.0	13.6
Total without energy	89,849	837,816	97.1	96.2	10.7
Energy products	2,724	32,985	2.9	3.8	8.2
Total	92,573	870,811	100.0	100.0	10.6

Grenoble

Rich mix of old and new

HEMMED IN by the grandiose setting of the snow-capped peaks of the Alps, Grenoble has been a centre of intellectual excellence and innovation since the fourteenth century. Its mediaeval university founded back in 1339 has given it a cosmopolitan and international dimension which has turned Grenoble into one of the most outgoing and open cities in France.

From an old academic city it has today evolved into one of the country's major centres of technology and innovation. But with the Alps at its footsteps, it has also become a major tourist resort and an increasingly important convention centre.

Its industrial and technological development is the fruit of both the area's rich natural resources, especially in energy, and its educational and research backbone. Hydro-electric energy followed by the development of nuclear power brought with them a series of industries and research institutes focused on energy and electricity production.

It is no accident to find that the area's largest industrial enterprise is Merlin Gerin, the electrical equipment manufacturer with annual sales of FFr 8.5bn which is controlled by the French Schneider group.

Grenoble has also grown into a leading centre for nuclear research with France's Atomic Energy Commission establishing back in 1956 its Centre for Nuclear Research . More recently, Grenoble was chosen after a fierce battle with Strasbourg as the site of the new European Synchrotrom radiation facility.

With its 36,000 students and 10,000 teachers and researchers out of a total population of 400,000 in the area, Grenoble has forged close links between business and education at the same time as attracting scientists from all fields from all over the world.

The city was also given a major international boost in 1968 by being chosen as the site of the winter olympics enhancing its reputation and image. It now expects to cash in again from the 1992 winter olympics in neighbouring Savoie since Grenoble will inevitably become a key port of call for the great olympic skiing circus.

Grenoble has also benefited from a strong tradition of visionary mayors who have helped the city evolve into a major technological centre and a magnet for countless new enterprises and research facilities.

Indeed, Grenoble has developed one of the most successful technopoles or technoparks in France. The so-called "zone pour l'innovation et les realisations scientifiques et techniques" known as Zirst for short has created to date more than 3000 new jobs.

The technopark includes nearly 140 small and medium sized enterprises two-thirds of which are involved in high technology activities. The city is now envisaging creating a FFr 250m Europole to attract more business enterprises in the area.

The range of industries in the area is extensive from consumer products, plastic processing, nuclear and electronics, winter sports equipment, and a large paper and pulp sector. France's leading computer services group, Cap Gemini, is also a product of Grenoble. It has become one of the recent big success stories of French business in the last few years.

Foreign groups have also been attracted to the Grenoble technological and scientific environment. Hewlett-Packard, the US electronics group, for example, employs 1200 people in the Grenoble area and is planning to open a third plant there next year.

The technological and industrial development of the city has also been matched by a steady programme of new transport infrastructures including a high speed rail service to Paris and new motorway links to enhance the city's international competitiveness. Moreover, Grenoble has also been at the forefront of urban planning in France. Indeed, it recently inaugurated a novel new urban tramway system to help resolve the city's growing traffic problems.

The choice of building a new tramway network was taken after a popular referendum in 1983. Grenoble believes its tramway, which has also led to major a major urban renewal programme in the city centre, could set a new trend in urban transit for cities of the size of Grenoble where an underground system would be out of all proportions and constitute an economically unviable proposition.

Paul Betts

Profile: Alain Carignon

A formidable political machine

Alain Carignon: seeking a new elan

ALAIN CARIGNON, the mayor of Grenoble since 1983, is part of a new generation of young neo-Gaullist RPR politicians which have increasingly made their mark on the French political landscape during the last few years. With Michel Noir, the RPR foreign trade minister from Lyon, and Philippe Seguin, the RPR social security and labour minister, Mr Carignon is one of the new faces brought into the cabinet of the conservative administration of Mr Jacques Chirac, the prime minister.

He has held the environment portfolio since the right returned to power 18 months ago. Although regarded as one of the junior ministeries in large part because of the apparent lack of interest in France in environmental issues, Mr Carignon has made his mark both on the national and local level.

The 38 year old environment minister believes there is an increasing awareness developing in France over the environment. Leaning back in his large office in the Grenoble town hall, he likes to refer to a recent survey showing that the environment is second only to unemployment today and is the biggest issue worrying France's young population in the 18-25 age group.

The awakening of public awareness in France to the problems of the environment has been noticeable since the Chernobyl nuclear disaster last year. France's vast nuclear power network was clearly the main reason for this sudden revival of environmental concern in the country.

It has also been a long-standing issue in the Grenoble area and the Rhone-Alpes as a whole since the region has one of the densest networks of nuclear plants in France.

Mr Carignon believes that the national consensus over nuclear power will continue to hold firm in France, even though a recent spate of minor accidents at power plants has raised some doubts among the population over nuclear safety.

"I believe that as long as we have complete transparency and that the population is kept completely informed, the consensus will stick," he says. Indeed, at a local level Mr Carignon has always sought to have as open a discussion as possible with the local population over the nuclear issue.

After some initial difficulties over the siting of a number of major plants in the area, nuclear energy has become widely accepted as safe and beneficial to the region.

This constant dialogue with the electorate and a constant drive to maintain close contacts with voters is one of the reasons for his political success. He took Grenoble by storm when he won the 1983 local elections snatching the town hall for the RPR from the late Socialist mayor, Hubert Dubedout, who reigned over Grenoble from 1965-83. Carignon's victory was one of the biggest upsets of the 1983 municipal elections.

Described by friends and foes alike as a "formidable political machine", Mr Carignon had campaigned with fury during the previous two years to win the Grenoble town hall.

His success at Grenoble has also been the result of his drive to place the city on the international map and in his own words to give it a "new elan". Grenoble, he says, received a huge boost from the 1968 Winter Olympics but it subsequently needed a boost to help it develop as a major international high technology industrial and research centre.

"What I've been seeking to do is to create a strong union between industry, education and the city. The challenge is all the greater with the prospects of the European unified market in 1992," he explains.

He sums up his strategy for Grenoble in three steps. The first is to create a system of what he calls 'technological watch' to ensure that all the components of the local economy are always at the forefront of technological developments.

The second is to continue building up Grenoble's reputation as a high-tech research and educational centre. The third is to ensure that the city adopts an increasingly international approach to reinforce its competitiveness.

If his predecessor, Mr Dubedout, was regarded as one of France's great urban planners, Mr Carignon is undoubtedly a great marketing and communications man. His marketing and acute political sense are already bearing fruit as Grenoble's international reputation steadily rises.

The forthcoming winter olympics in nearby Savoie in 1992 are likely to reinforce this reputation abroad. But Mr Carignon also acknowledges that, coupled with their economic advantages, the games will undoubtedly pose an environmental problem.

"But we are working very closely with the authorities in Savoie to ensure that all the environmental interests of one of the most beautiful regions of France can cohabitate with the preparation of the games," he says.

Paul Betts

Winter Olympics

Quarrels over the pistes

Winter sports stays

%

	Rhone-Alpes					French				
	Total (m)	France	Isère	Savoie	Haute-Savoie	Total (m)	France	Isère	Savoie	Haute-Savoie
Winter holidays	2,351	87,2	9,3	14,1	7,3	21,494	85,9	3,2	6,7	9,2
Winter sports	569	94,4	22,3	31,5	22,3	5,881	92,9	7,6	19,7	26,2

THE HIGH POINT came a year ago, when Albertville and its surrounding resorts in Savoy heard that they had won the competition to host the Winter Olympic Games of 1992.

The low point came in January, when Mr Jean-Claude Killy, the dashing French ski champion turned international businessman, resigned as chairman of the Albertville Games organising committee amid bitter recriminations between the mayors of the rival resorts, each fearing that they would not receive their fair share of Olympic events.

"It won't be the same without Jean-Claude Killy. It is bad for our image, because abroad they do not understand his resignation, said Mr Laurent Boix-Vives, chairman of the leading French ski manufacturer Rossignol.

If accord has now been reached over the distribution of events around the Tarentaise, the Alpine region clustered around the upper reaches of the river Isere, the financial outlook for the Games as a whole now appears less rosy. Since the provisional budget was fixed at FFr 3bn, the dollar's exchange rate has fallen by around 30 per cent, hitting prospects for income from the media groups planning to televise the Olympics.

But the Savoyards can now settle down to organising the event and the infrastructure to support it, and leave behind them their resort rivalries.

Since Paris failed in its bid to be selected as the site of the 1992 Summer Olympics, losing to Barcelona, Savoy has taken over as the French standard-bearer. And although the central government of prime minister Jacques Chirac is keen to underline where the state's financial responsibility stops, and that of the region begins, the Albertville games now have the full weight of the state behind them.

"I want all the French people to take note little by little that we are talking about a grand national design. It is a national priority," Mr Chirac said on a visit to Chambery, the capital of Savoy, earlier this year.

The prime minister remembers only too well the financial problems of the last French Winter Olympics - at Grenoble in 1968, where Mr Killy became a national hero overnight with three gold medals - because he was at the time France's budget minister.

"Let us take care that this time we do not have to take urgent decisions in the last six months the financing of which is put off until later," he said.

But the state has already committed itself to a major works programme which will benefit the Games, by accelerating its roadbuilding plans and improving the transport links between Albertville and the outside world.

The government had already planned to remove some of the road bottlenecks leading into the Alpine valleys of the Tarentaise, at a cost of around FFr 800m. An additional FFr 1bn of roadworks is now planned.

The work will include the extension of the motorway from Chambery to Albertville, the doubling in size of the Epine tunnel and the conversion of the road between Albertville and Moutiers - further up the valley of the river Isere - to four lanes.

The distribution of events, the bone of contention which led to the departure of Mr Killy from the Games organising committee, now appears to have been resolved.

In the original candidature proposals - which some cynics say were drawn up out of political necessity to ensure that the whole region would back the Albertville application - the men's events were to be divided between the resorts of Val d'Isere, Tignes and Les Menuires, with the women's downhill events at Les Menuires and Meribel.

Mr Killy regarded this scattering of events as unworkable, and proposed regrouping the men's events on Val d'Isere - a politically insensitive move since the Val is regarded as Killy's pet resort - and the women's on Meribel.

In the calmer days following his resignation this proposal has in fact been very largely accepted, though Les Menuires, jilted by the women's downhill events, has been given the men's special slalom in compensation, and Tignes the freestyle skiing demonstration events.

Besides these hotly contested events, Nordic ski-ing will take place at Saisies, ski-jumping and ice-hockey at Courchevel, bobsleigh and luge at La Plagne, figure and speed skating, as well as the opening and closing ceremonies, at Albertville itself.

Further demonstration events will take place at Les Arcs, which will host the speed skiing events, and at Pralognan, where curling will take place.

The new arrangements are designed to ease transport problems, since the events taking place in the upper reaches of the Tarentaise, at Val d'Isere, Les Arcs, La Plagne and Tignes, will largely be completed in the first week. For their second week the games can move downstream.

If the mayors of the Tarentaise towns have reached agreement more easily than might have been expected after the Killy furore, it remains to be seen if France's ski team can raise its performance and turn the Albertville Olympics into a domestic triumph.

The French team had a thin time at this year's world championships in Crans-Montana, and the season ended in a slanging match between their manager, the Swiss Mr Roland Francey, and the ski manufacturer Rossignol, which supplies much of their equipment.

Rossignol suffered badly from the dispute, since its share price dropped 6 per cent in two days after Mr Francey had criticised the skis it had supplied to his team.

Whatever the quality of the equipment, it may take more than hard work to produce a champion for 1992, to do at Albertville what Jean-Claude Killy did at Grenoble in 1968.

George Graham

The biggest tourist area outside Paris draws visitors all year round

Ski slopes pull in the money

SURPRISING AS it may seem, the Rhone-Alpes and not the Riviera is the second biggest tourist region of France after Paris. With its snow-capped Alpine peaks, its winter and summer mountain resorts, its spas and lakes, its historic cities and varied countryside, not to mention its reputation as one of the great gastronomic and wine regions of France, the Rhone-Alpes has been attracting an ever increasing flow of foreign visitors.

Winter sports are undoubtedly the number one attraction. With its 208 winter sports resorts, 2,000 ski-lifts, and 3,700 ski runs, the region has drawn to its mountains the great majority of the six million skiers, including one million from abroad, who come every year to France.

The region is now seeking to attract even more skiers to its slopes by aggressive international marketing operations. This week(Oct 19-21), for example, the region is launching a major operation in London to promote local tourism and business opportunities in the Rhone-Alpes. It has already organised similar promotions in Japan and the US.

The Rhone-Alpes regard the UK as one of its key tourist markets offering considerable potential for growth in coming years. Of the one million foreigners who come to French winter resorts every year, about a third are British.

Last season, 330,000 British skiers came to France. Of these 320,000 came to the Rhone-Alpes resorts. The region expects that the number will grow even more this year to over 350,000 British skiers.

After the British come the Germans and the Spaniards. But it is in Britain that the region believes there are the best chances of growth. To this end, the Rhone-Alpes is competing actively against the rival resorts of Austria which have traditionally been a key market for British skiers.

However, there is a big difference between the Rhone-Alpes resorts and the Austrian ones. Although each offer about the same number of total beds - around one million each - the characteristic of the Rhone-Alpes is that 800,000 beds are to be found in self-catering flats with the remaining 200,000 beds in hotels. In Austria it is completely the opposite with 800,000 hotel beds and 200,000 self-catering beds.

"Our respective products are very different," acknowledged a French tourist board official. "But we are now seeking to diversify our winter resort offering by developing new village type resorts as well as the purpose-built modern resorts which have mushroomed in France during the past few years.+

At the same time, the region believes its ski resorts backed by a strong locally-based winter sports equipment industry will be given an enormous boost by the forthcoming winter olympics in Savoie in 1992. The games will not only improve the general winter sports infrastructures of the area and its communications, but also give it enormous international media exposure.

Moreover, to respond to the growing foreign tourist market, the region is encouraging greater use of English as a language used by ski instructors. Already at the Alpe d'Huez, an international ski school has been started where the monitors speak three languages including English, German and Italian as well as French. It is the first experiment of its kind in France.

But skiing, although dominant in the region's tourist industry, is not the only big attraction of the Rhone-Alpes. The region's lakes and spas as well as its historical and cultural landmarks have also acted as important magnets to the area. The Chartreuse monastry, for example, attracts as many as 200,000 visitors every year.

Tourists are also lured to the area by its wealth of good wines and its gastronomic delights. The region's major cities are also important tourist poles in different ways.

Lyons, for example, has made increasing efforts to boost its international tourist image especially at a time when like other parts of the country it has been forced to adapt to a decline in American tourist business due to the fall of the dollar and also to the fears about terrorism.

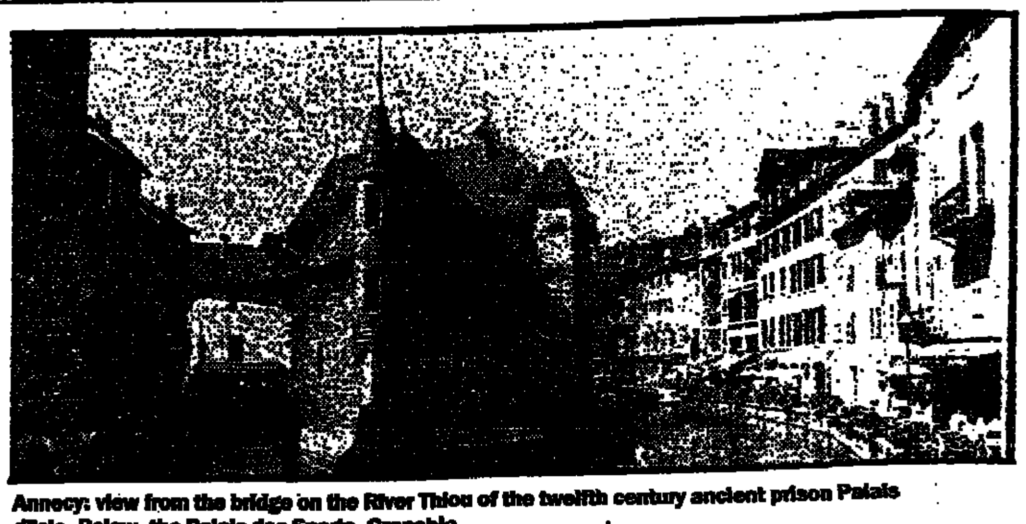
"We used to have about 140 Americans every weekend which represented an important aspect of our weekend business," remarked the manager of the Sofitel, one of the leading modern hotels in the heart of Lyons. "They were an important complement to our traditional weekday business."

But the Americans are now beginning again to return. This is noticeable especially in Lyons where Americans have traditionally come to feast on the area's network of three, two and one star Michelin restaurants. Moreover, the remarkable restoration of the old city of Lyons has also attracted many people.

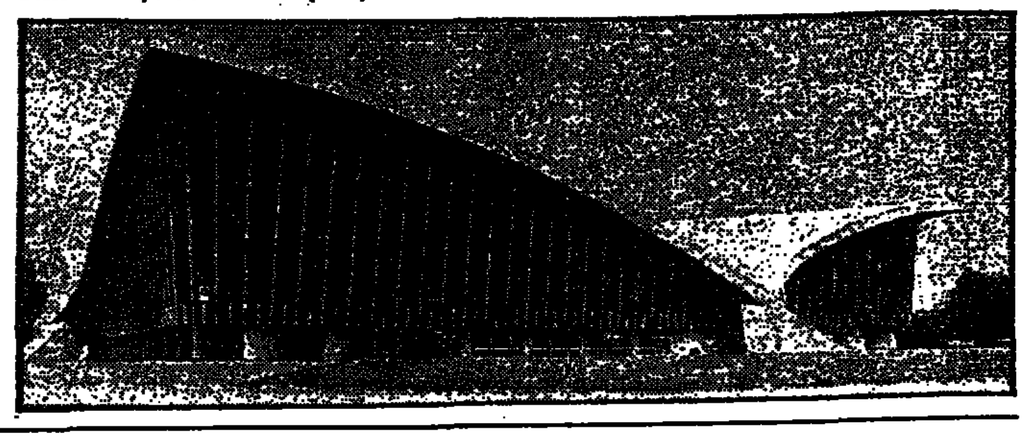
Lyons like Grenoble is also striving to attract more business conventions. But the problem for Lyons is that it still needs a big 400 room first class hotel to complete its tourist infrastructure especially to attract large congresses and conventions at a time when many other major French cities are competing fiercely for this type of business.

Above all, however, Lyons needs to improve its international image ."For too long we have adopted a discreet profile to marketing. We now need to boost our efforts to promote the city abroad," remarked the Lyons tourist director. "For too many years Lyons has been a beautiful woman dressed in Laura Ashley clothes. It's now time it showed a bit more leg,"he added.

Paul Betts



Annecy: view from the bridge on the River Thiou of the twelfth century ancient prison Palais d'Isle. Below, the Palais des Sports, Grenoble



Profile

Henri Giraud has pioneered mountain flying for the past forty years

Flyer among the peaks

Henri Giraud (left) with his small aircraft which he has landed on Mont Blanc

THERE IS nothing more exhilarating than mountain flying. The little four-seater aircraft, a sort of flying stock car,skimmed past the peaks of Alps over deep ravines and glaciers. Suddenly the pilot turned the plane around and before his bewildered passengers could gasp, the tiny aircraft was landing on a small field on top of a 1600 metre mountain near the picturesque hamlet of Villard Notre Dame.

During the last 40 years,Henri Giraud,the pilot of the small plane, has been a pioneer of mountain flying. The 67-year-old flyer, a rugged man of the mountains,has helped develop this special form of mountain transport which has also become a sport in its own right.

Mr Giraud holds the European record for mountain landing. Back in 1960 he landed his tiny craft at the top of Mont Blanc, Europe's highest mountain 4807 metres above sea level.To persuade the French authorities of the safety of this form of transport, he took a French transport minister in the Sixties in his plane and dropped him at the top of a glacier 3500 metres above sea level.

This prompted the government to pass six months later legislation allowing planes to land on glaciers and so-called 'altiports' at the top of mountains.

Most of the big French Alpine ski resorts now have altiports. But the French Government still refuses to allow the small mountain planes to take skiers to the top of runs by air.

"We used to be able to take skiers to the slopes. In fact I've taken 15,000 skiers in my plane in my time," explained mr Giraud in his tiny cockpit flying near a mountain where a herd of chamois were climbing up the rocks."But the Government has stopped us taking skiers, claiming that mountain flying risked becoming an environmental hazard."

The argument of the authorities is that planes and helicopters flying all round and on top of the Alps could seriously disrupt the natural environment, disturbing the chamois and adding to the risks of avalanches.

Mr Giraud and the other French mountain pilots dispute this, claiming that transporting skiers by plane is allowed in neighbouring Switzerland and Italy. This alone is expected to persuade the French Government to change its mind on what could clearly constitute a major new attraction for winter holidaymakers.

Moreover, mountain flying is not a particularly expensive pastime. Indeed, it is less costly than water skiing in Mediterranean resorts. Mr Giraud says it costs about FFr 660 (about £66) to fly for an hour in his plane which is part of a small aeroclub based in Grenoble. The cost is obviously less if several people take the same plane.

But mountain flying is not only limited to skiers."I've often dropped businessmen in the courtyard of their mountain hotels," says Mr Giraud. Many visitors in the region also hire the planes in the summer for panoramic trips around the Alps.

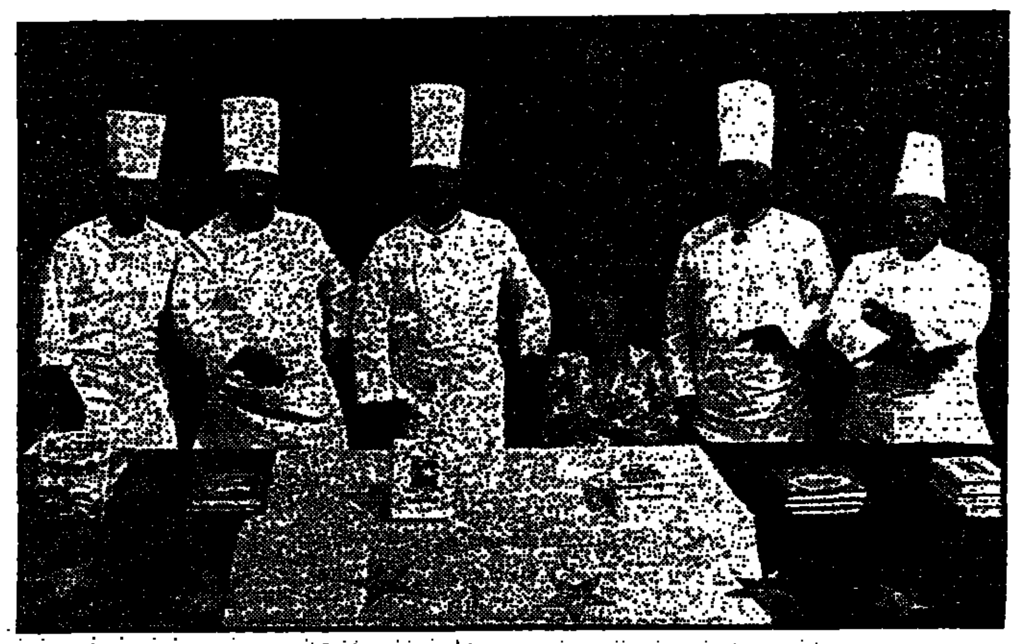
Indeed, flying in these small aircraft is a unique sensation. My partner during a recent flight with Mr Giraud was breathless when the veteran mountain pilot stopped the engines and glided silently between two imposing mountain peaks.

"You feel like Saint Exupery," she exclaimed. "I can see how people become philosophers and mystics flying in these magnificent small flying machines.It's mind blowing."

Paul Betts

Food and wine

The stomach of France



Some of the great regional chefs (left to right) Georges Blanc, Pierre Troisgros, Paul Bocuse, Mme Point, Alain Chapel, Jacques Pic

"YOU WILL probably find that one out of two Americans cannot place Lyons on the map of France. But ask them where Paul Bocuse is and they will immediately pinpoint the site of the famous restaurant," remarked a regional tourist official in Lyons, the self-proclaimed gastronomic capital of France and home of Paul Bocuse and scores of other venerable hostelries.

An evening at Paul Bocuse's garishly painted restaurant in the suburbs of Lyons between the river and the railway line is an extravagent experience.There are busts and pictures of Bocuse everywhere in the restaurant, even on the napkin rings for modesty has never been his forte.

American and Japanese visitors invariably creep into the kitchen to take snapshots of the master and his army of cooks and then they take more snapshots of every dish put before them. After eating their "soupe aux truffes noires VGE" (a dish specially prepared for former President Valery Giscard-d'Estaing when he was in the Elysee Palace), the "loup de ligne en croute a la mousse de homard", the "poularde de Bresse", the cheeses and the huge selection of sweets, they can buy souvenirs of the great chef and his restaurant in the little shop next to the bathroom and telephones if they have any loose change left.

For dining at Bocuse, like at any of the Michelin three star restaurants, is also an expensive experience. There is a set menu at FFr 525 and another at FFr 480. The wine list is extensive and if you have the inclination you can order a bottle of 1972 Romanee Conti Leroy for a mere FFr 8450 +

Bocuse's flamboyant and extrovert personality has made him as many critics as admirers these days. But even his critics, who say that there are at least ten restaurants better than Bocuse in Lyons, acknowledge the major role Bocuse has played as an international ambassador for French gastronomy.

Indeed, it was Bocuse who did more than anyone else to revive during the past two decades the international image of French haute cuisine. Moreover, his restaurant has been a breeding ground for a whole new generation of new chefs in France.

But if Bocuse has always captured the international culinary limelight, the Rhone-Alpes region, appropriately known as "the stomach of France", has also produced a crop of other legendary chefs. Of the 19 restaurants with three Michelin stars in France, six are to be found in the region including the Freres Troisgros at Roanne, Alain Chapel at Mionnay, Charlyne Bise at Talloires, Georges Blanc at Vonnas, Pic at Valence and Bocuse at Collonges au Mont d'Or just outside Lyons.

But the region is not only made up of three or two star restaurants. It is dotted with a constellation of small establishments which all take enormous pride in the preparation of their local dishes and specialities. And it is no quirk of history that the Rhone-Alpes has had such a long and distinguished gastronomic record.

The region's geography provides one major explanation. Bernard Pivot, the French broadcaster who has become the country's literary conscience, has written that if he was a geography teacher he would teach the reliefs and demography of the Rhone-Alpes with the help of regional and local gastronomic specialities – Lyons with its dry sausages; Grenoble with its walnuts and "gratin dauphinois"; Bresse and its chickens; the Ardeches and its chestnuts; and the Dombes with its frogs to name just a few.

The range of specialities and the variety of local products specific to the different parts of the region from the Ain and the Ardeches, to the Drome, the Isere, Savoie and Haute Savoie, the Loire and the Rhone is complemented by the area's great reservoir of wine.

During the last few years, the wines of the Beaujolais have made a major international breakthrough as a result of aggressive and clever marketing on the part of the region's wine merchants and producers.

The links between wine producers and the region's master chefs are also close.

During a recent visit to a vineyard at Morgon, what looked like a little shrine in honour of Paul Bocuse decorated the entrance of the cave. A little further up the road at Fleurie, the local Michelin two star restaurant, the Auberge du Cep, a charming and unpretentious establishment, served as its plat de resistance a delicious chicken flooded in a red Boujolais.

Everywhere in the Rhone-Alpes the taste and smells of good cooking linger in the countryside and in the streets of the towns and villages. For good eating and drinking have long played a major role in shaping a region whose inhabitants have always had the reputation of being the greatest trenchermen of France.

Paul Betts

مطابق للأصل

WORLD MARKETS

FT-ACTUARIES WORLD INDICES

Jointly compiled by the Financial Times, Goldman, Sachs & Co., and Wood Mackenzie & Co. Ltd., in conjunction with the Institute of Actuaries and the Faculty of Actuaries

NATIONAL AND REGIONAL MARKETS	THURSDAY OCTOBER 15 1987					WEDNESDAY OCTOBER 14 1987			DOLLAR INDEX		
Figures in parentheses show number of stocks per grouping	US Dollar Index	Day's Change %	Pound Sterling Index	Local Currency Index	Gross Div. Yield	US Dollar Index	Pound Sterling Index	Local Currency Index	1987 High	1987 Low	Year ago (approx)
Australia (91)	165.39	−0.9	147.32	150.98	2.60	166.95	149.69	153.68	180.81	99.92	89.47
Austria (16)	101.76	+0.3	90.64	95.19	2.17	101.45	90.96	95.49	102.87	85.53	96.46
Belgium (48)	120.75	−2.5	107.56	112.57	4.21	123.90	111.09	115.65	134.89	96.19	89.65
Canada (129)	129.00	−1.2	114.90	121.48	2.46	130.51	117.02	123.42	141.78	100.00	97.67
Denmark (38)	121.29	−0.5	108.03	113.99	2.57	121.85	109.26	115.06	124.83	98.18	98.35
France (122)	99.08	−3.3	88.25	93.41	2.95	102.50	91.90	97.03	121.82	98.39	93.90
West Germany (93)	99.03	−1.5	88.20	92.70	2.04	100.52	90.13	94.69	104.93	84.00	94.87
Hong Kong (46)	152.46	−0.2	135.80	152.74	3.18	152.83	137.03	153.18	158.68	96.89	89.09
Ireland (14)	156.26	−2.1	139.18	147.77	3.03	159.65	143.15	151.64	160.22	99.50	80.75
Italy (95)	96.70	+1.3	86.13	93.96	2.01	95.45	85.58	93.13	112.11	84.22	104.63
Japan (458)	151.51	−0.8	134.95	136.09	0.50	152.71	136.92	137.70	161.28	100.00	93.25
Malaysia (36)	176.38	−0.5	157.10	172.37	2.12	177.20	158.88	172.83	193.64	98.24	97.40
Mexico (14)	364.35	−5.4	324.53	640.37	0.47	385.01	345.21	676.25	422.59	99.72	76.49
Netherland (37)	118.79	−1.5	105.80	109.84	4.06	120.54	108.08	112.13	131.41	99.65	96.25
New Zealand (23)	129.33	+0.1	115.20	105.95	2.78	129.15	115.80	107.33	138.99	83.93	79.46
Norway (24)	179.32	−1.0	159.72	160.52	1.69	181.10	162.38	162.67	185.01	100.00	103.71
Singapore (27)	169.65	−0.2	151.11	163.51	1.51	170.04	152.46	164.12	174.28	99.29	102.99
South Africa (61)	187.78	+0.2	167.26	136.85	3.06	187.44	168.07	136.60	198.09	100.00	99.83
Spain (43)	163.56	−0.2	145.69	146.40	2.71	163.90	146.95	149.06	168.81	100.00	98.73
Sweden (34)	134.67	−1.1	119.95	126.30	1.81	136.20	122.12	128.24	136.64	90.85	99.08
Switzerland (53)	110.14	−0.8	98.10	101.71	1.62	111.00	99.52	103.36	111.11	92.01	96.05
United Kingdom (335)	158.41	−0.2	141.10	141.10	3.19	158.73	142.32	142.32	162.87	99.65	92.97
USA (584)	121.97	−2.3	108.63	121.97	3.04	124.88	111.97	124.88	137.42	100.00	99.62
Europe (952)	127.21	−0.7	113.30	116.47	2.84	128.14	114.90	118.09	130.02	99.78	95.26
Pacific Basin (681)	151.95	−0.8	135.34	136.94	0.68	153.13	137.30	138.56	158.77	100.00	92.95
Euro—Pacific (1633)	142.11	−0.8	126.58	128.78	1.45	143.19	128.39	130.40	143.65	100.00	93.87
North America (713)	122.34	−2.3	108.97	121.96	3.00	125.18	112.24	124.82	137.55	100.00	99.51
Europe Ex. UK (617)	107.80	−1.2	96.02	101.03	2.52	109.14	97.86	102.92	111.97	98.02	96.69
Pacific Ex. Japan (223)	157.63	−0.6	140.40	147.67	2.73	158.54	142.16	149.36	164.03	99.92	89.44
World Ex. US (1837)	142.27	−0.8	126.72	128.92	1.51	143.37	128.55	130.54	143.38	100.00	94.04
World Ex. UK (2086)	132.04	−1.5	117.60	125.10	1.91	133.98	120.13	127.29	138.82	100.00	96.52
World Ex. So. Af. (2360)	134.04	−1.3	119.39	126.48	2.03	135.85	121.81	128.59	139.47	100.00	96.18
World Ex. Japan (1963)	126.20	−1.6	112.41	121.78	2.93	128.29	115.03	124.12	134.22	100.00	97.62
The World Index (2421)	134.39	−1.3	119.70	126.59	2.04	136.18	122.11	128.69	139.73	100.00	96.20

Base values: Dec 31, 1986 = 100

Amendments to indices for October 14 applied to the following: Denmark,France,Spain,Sweden,Europe,Euro-Pacific,Europe Ex. UK, World Ex. US,World Ex. UK, World Ex. South Africa,World Ex. Japan and The World Index.

Latest prices were unavailable for this edition

EUROPEAN OPTIONS EXCHANGE

Series		Vol.	Last	Vol.	Last	Vol.	Last	Stock
		Nov 87		Feb 88		May 88		
GOLD C	$460	402	13.90	294	27	—	—	$465.90
GOLD C	$480	498	3.70	95	18	—	—	"
GOLD C	$500	145	2.20	14	10.80	54	20	"
GOLD P	$440	—	—	10	5.50	4	7	"
GOLD P	$460	125	6	2	10.50B	—	—	"
GOLD P	$480	350	21	1	22.50	—	—	"
		Dec. 87		March 88		June 88		
SILVER C	$800	39	50	—	—	—	—	$789
SILVER C	$850	57	25	—	—	—	—	"
SILVER C	$900	2	15	10	50	—	—	"
SILVER P	$800	19	50	—	—	—	—	"
		Oct. 87		Nov. 87		Dec. 87		
$/FL C	Fl.195	15	7.90	325	7.30	2	7.30	Fl.202.58
$/FL C	Fl.200	31	2.40	—	—	114	3.50	"
$/FL C	Fl.205	13	0.05	36	1	136	1.50	"
$/FL C	Fl.210	—	—	20	0.50	20	0.60	"
$/FL P	Fl.195	—	—	30	0.70	14	1.20	"
$/FL P	Fl.200	32	0.05	279	2.10	76	2.50	"
		Mar. 88		June 88		Sep. 88		
$/FL C	Fl.205	—	—	16	3.70	7	4.30	Fl.202.58
$/FL C	Fl.210	—	—	12	2.50	—	—	"
$/FL P	Fl.195	—	—	15	4.70	—	—	"
$/FL P	Fl.200	43	4.80	—	—	24	8.80B	"
		Oct. 87		Jan. 88		Apr. 88		
ABN C	Fl.48	—	—	980	1	93	2.30	Fl.42.80
ABN P	Fl.46	6118	3.30B	692	3.60	223	4	"
AEGON C	Fl.85	129	0.10	252	4	1	7	Fl.83.50
AGEON P	Fl.80	47	0.30	182	2	60	4.20	"
AHOLD C	Fl.105	—	—	54	3	25	4.90	Fl.97.70
AHOLD P	Fl.100	483	2.50B	331	6	2	7	"
AHOLD C	Fl.100	10	0.40	—	—	—	—	"
AHOLD P	Fl.100	34	2.50	10	6.50	—	—	"
AKZO C	Fl.170	1006	0.10	1296	6.90	897	10.50B	Fl.163.40
AKZO P	Fl.170	2533	6.50	882	11.50	439	13.50	"
AMEV C	Fl.60	—	—	102	2.40	20	3.70A	Fl.57
AMEV P	Fl.60	121	3.20	101	4.90	52	5.40	"
AMRO C	Fl.75	272	3	67	6	17	7.50	Fl.77.20
AMRO P	Fl.80	673	2.60	146	4.50	13	5.50	"
ELSEVIER C	Fl.65	407	0.10	147	1.20	31	3	Fl.55
ELSEVIER P	Fl.60	482	5.20	109	7.20	215	7.50B	"
GIST-BROC. C	Fl.50	333	0.10	363	1.70	33	3.50	Fl.46.30
GIST-BROC. P	Fl.45	373	0.30	171	1.40	—	—	"
HEINEKEN C	Fl.170	—	—	87	7.50	13	11	Fl.166.30
HEINEKEN P	Fl.170	923	4.20	158	8.50	412	10.20	"
HOOGOVENS C	Fl.50	—	—	372	1.80	52	3.50	Fl.44.80
HOOGOVENS P	Fl.45	2238	0.70	313	3.20B	26	4.20	"
KLM C	Fl.50	1452	0.10	952	2.70	71	3.80	Fl.46.50
KLM P	Fl.50	1418	3.30	903	5	133	5.50	"
NEDLLOYD C	Fl.210	—	—	190	3.70	—	—	Fl.185.50
NEDLLOYD P	Fl.180	136	0.30	122	7	5	11.80	"
NAT.NED. C	Fl.70	64	0.10	275	3	57	4.70B	Fl.68.10
NAT NED P	Fl.65	154	0.30	793	2.10	5	3	"
PHILIPS C	Fl.50	1584	0.30	875	2.70	261	3.90	Fl.49.10
PHILIPS P	Fl.50	3583	1	1721	3.10	434	4.30	"
ROYAL DUTCH C	Fl.260	1181	0.20	494	9	35	14.20	Fl.253.20
ROYAL DUTCH P	Fl.260	3049	6.50B	1187	10.50	733	14	"
ROBECO C	Fl.100	12	8.50	2	11	—	—	Fl.108.10
ROBECO P	Fl.105	—	—	116	2.50A	3	3.50	"
UNILEVER C	Fl.136	575	0.10	1310	5	—	—	Fl.126.50
UNILEVER P	Fl.128	1280	2.50	888	6.50	—	—	"

TOTAL VOLUME IN CONTRACTS: 141,740

A=Ask B=Bid C=Call P=Put

BASE LENDING RATES

	%		%		%
ABN Bank	10	● Charterhouse Bank	10	Nat Bk. of Kuwait	10
Adam & Company	10	Citibank NA	10	NatWestminster	10
Allied Arab Bk Ltd	10	City Merchants Bank	10	Northern Bank Ltd	10
Allied Dunbar & Co	10	Clydesdale Bank	10	Norwich Gen. Trust	10
Allied Irish Bank	10	Comm. Bk. N. East	10	PK Finans. Intl (UK)	10½
American Exp. Bk	10	Consolidated Cred	10	Provincial Trust Ltd	11
Amro Bank	10	Co-operative Bank	*10	R. Raphael & Sons	10
Henry Ansbacher	10	Cyprus Popular Bk	10	Roxburghe G'rantee	10½
ANZ Banking Group	10	Duncan Lawrie	10	Royal Bk of Scotland	10
Associates Cap Corp	10	Equat'r'l Tst C'p plc	10	Royal Trust Bank	10
Authority & Co Ltd	10	Exeter Trust Ltd	10½	Smith & Williams Secs	10
Banco de Bilbao	10	Financial & Gen. Sec	10	Standard Chartered	10
Bank Hapoalim	10	First Nat. Fin. Corp	11	TSB	10
Bank Leumi (UK)	10	First Nat. Sec. Ltd	11	UDT Mortgage Exp	¶11.1
Bank Credit & Comm	10	● Robert Fleming & Co	10	United Bk of Kuwait	10
Bank of Cyprus	10	Robert Fraser & Ptrs	11	United Mizrahi Bank	10
Bank of Ireland	10	Girobank	10	Unity Trust PLC	10
Bank of India	10	Grindlays Bank	10	Western Trust	10
Bank of Scotland	10	● Guinness Mahon	10	Westpac Bank Corp	10
Banque Belge Ltd	10	HFC Trust & Savings	10	Whiteaway Laidlaw	10½
Barclays Bank	10	● Hambros Bank	10	Yorkshire Bank	10
Benchmark Tst Ltd	10	Heritable & Gen. Tst	10		
Beneficial Trust Ltd	11	● Hill Samuel	§10		
Berliner Bank AG	10	C. Hoare & Co	10		
Brit Bk of Mid East	10	Hongkong & Shangh	10		
● Brown Shipley	10	Lloyds Bank	10		
Business Mtge Tst	10	Meghraj & Sons Ltd	10		
CL Bank Nederland	10	Midland Bank	10		
Canada Permanent	10	● Morgan Grenfell	10		
Cayzer Ltd	10	Mount Credit Corp. Ltd	10		

● Members of the Accepting Houses Committee. * 7-day deposits 5%. Sarewise 7.66%. Top Tier—£2,500+ at 3 months' notice 9.31%. At call when £10,000+ remains deposited. ¶ Mortgage base rate. § Demand deposit 4.98%. Mortgage 11.125%.

EQUITIES

Issue Price	Amount Paid up	Latest Renunc. Date	1987 High	1987 Low	Stock	Closing Price	+ or −	Net. Div.	Times Cov'd	Gross Yield	P.E. Ratio
§130	F.P.	20/11	170	151	Alba 10p	151	......	L3.8	2.2	3.4	15.4
§61	F.P.	—	96	64	‡Amer Plast.Inc. $0.01	95	−1	RQ25c	4.6	1.6	13.5
175	F.P.	6/11	240	215	Anglo Leasing 10p	235	......	L2.5	1.9	1.5	17.0
**	F.P.	23-10	27	21	Atlantic Assets Wrnts	26	......	—	—	—	—
§105	F.P.	—	160	110	‡Banner Homes 10p	141	−2	R2.6	2.9	2.5	18.8
§100	F.P.	—	182	148	Butte Mining 10p	172	+1	—	—	—	—
70.3	F.P.	—	73	72	CDFC Trust 10p	72	......	—	—	—	—
50	F.P.	9/9	111	58	‡Corp. Estates Prop.5p	106	......	L0.75	2.4	1.0	57.9
§106	F.P.	—	160	135	‡Dolphin Pack 5p	148	+3	L2.0	3.5	1.0	57.9
10	F.P.	11/12	14¼	10	EFM Dragon Trust 5p	14	......	—	—	—	—
‖‖	F.P.	—	268	253	English & Caledonian Inv	268	......	—	—	—	—
32	F.P.	30/10	50	32	‡Explaura 5p	50	+½	—	—	—	—
**	F.P.	—	67	60	First Spanish I. T. Wrnts.	60	......	—	—	—	—
**	F.P.	23/10	23	22	Independent Inv. Wrnts	22	......	—	—	—	—
§80	F.P.	—	148	128	ISA Intl. 5p	144	−4	—	—	1.1	31.4
§115	F.P.	—	128	121	‡Marcol 5p	121	−1	L2.5	2.1	2.6	25.8
257	F.P.	—	98	55	Moorgate Inv. Warr.	87	......	—	—	—	—
§100	F.P.	—	108	103	New Guernsey Securities	108	......	—	—	—	—
§110	F.P.	4/8	370	185	‡Parkway 5p.	365	......	R1.5	4.2	0.6	57.6
§10.58	F.P.	—	$21¼	$15	Portugal Fund $0.01	$18	......	—	—	—	—
¶¶	F.P.	—	128	105	*Seacon Holdings	113	−2	—	—	—	17.5
130	F.P.	—	253	180	Security Archives 20p	243	......	R4.0	2.0	2.2	30.6
250	F.P.	—	317	301	‡Stanhope Prop	317	+5	—	—	—	—
§87	F.P.	—	98	86	‡URS Intl. $0.01	91	......	R4.75	1.9	2.9	18.2
§60	F.P.	—	93	82	‡WSP Hldgs. 5p	82	......	R1.4	3.0	2.3	19.6
‖‖	F.P.	—	168	143	Zetters Leisure 10p	168	+2	L1.5	3.7	1.2	30.1

FIXED INTEREST STOCKS

Issue Price £	Amount Paid up	Latest Renunc Date	1987 High	1987 Low	Stock	Closing Price £	+ or −
100	F.P.	—	110p	105p	AGB Research 6.21 Cnv. Prf.	110p	......
100	Nil	20/11	6½pm	4pm	Allied Lond. Props 5¼% Cv.Rd.Pf.	4pm	......
100	F.P.	—	101p	98½p	Brit. & Comm. 4¾pc Cm Red Prf	99p	......
100	F.P.	—	102	97½	CDFC Trust 6½pc Cv 2010	102	......
100p	F.P.	—	102p	97p	Chesterfield Props 5¼pc Cr. Cm. Prf.	101	......
100	£10	—	11⅛	10¼	Chester Wtr Wks 11½pc Rd Db '98-2000	11	......
¶¶	F.P.	—	145p	130p	Merlin Intl. Cum. Red. Cnv. Prf.	133p	......
§100	F.P.	—	111	106	Morrison (Wm) 5¼pc Cm Rd Pf	111	......
—	F.P.	—	100⅛	99⅞	N'wide Anglia 10⅜ pc. 12.9.88	99⅞	......
—	F.P.	—	100⅛	99⅞	Do. 10⅝ pc.26.9.88	99¾	......
‖	F.P.	—	109½pm	104¾pm	Next 5½% Cnv. 2003	105½	......
100p	F.P.	—	113p	110p	‡Randsworth Tst. 7% Cum. Cnv. Red. Prf.	111p	+1

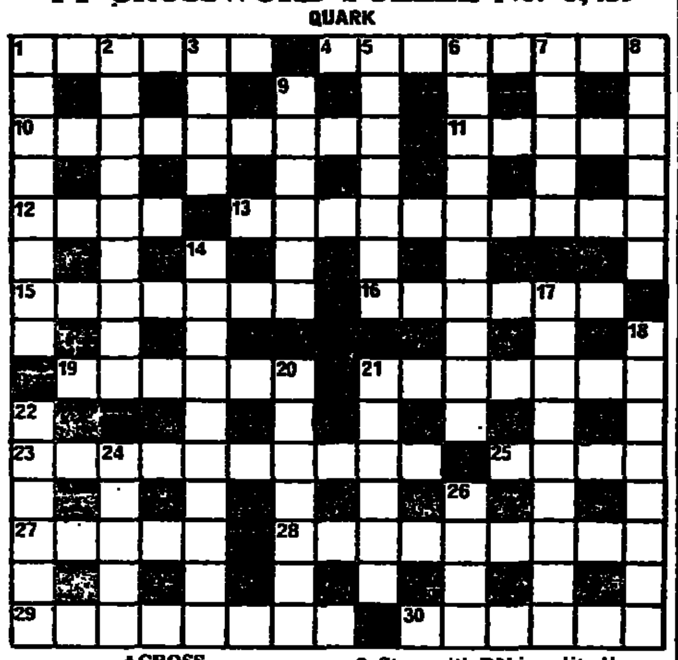
"RIGHTS" OFFERS

Issue Price	Amount Paid up	Latest Renunc Date	1987 High	1987 Low	Stock	Closing Price p	+ or −
100	Nil	—	200pm	158pm	Arley	193pm	......
6	Nil	19/11	6pm	5pm	Ass. Brit. Eng.1p	5pm	......
200	Nil	12/11	36pm	17pm	Bowthorpe 10p	27pm	......
159	Nil	—	14pm	2pm	Cowie (T.) 5p	8pm	......
75	Nil	14/10	21pm	9pm	Forward Technology	15pm	......
138	Nil	18/11	48pm	35pm	Harris (P) 20p	38pm	......
310	Nil	—	43pm	36pm	Heywood Williams	36pm	......
265	Nil	—	34pm	33pm	‡Hunter Saphire	33pm	−1
40	Nil	27/11	8½pm	3½pm	Hyman 5p	5pm	−½
450	Nil	—	131pm	122pm	Kleinwort Benson, L	122pm	−6
370	Nil	—	81pm	69pm	Ladbrook 10p	70pm	−2
145	Nil	—	14pm	11pm	Martin (A.) 20p	12pm	+1
425	Nil	16/10	255pm	125pm	‡Miller & Santhouse 5p.	245pm	......
45	Nil	—	18pm	11pm	‡New England Props. 5p.	11pm	......
210	Nil	18/11	28pm	23pm	Optical & Medical 5p	23pm	......
200	Nil	—	167pm	40p	‡Pacific Sales 10p	167pm	......
80	Nil	—	460pm	340pm	Press Tools	450pm	......
55	Nil	—	11pm	6½pm	Publishing Hldgs 5p	10pm	......
136	Nil	—	48pm	46pm	‡Quarto	48pm	......
390	Nil	18/11	84pm	30pm	Siebe	80pm	......
400	Nil	—	86pm	80pm	Sketchley	80pm	......
248	Nil	—	25pm	22pm	‡Tod 5p	22pm	......
150	Nil	—	40pm	25pm	‡Tribble Harris	38pm	+1
300	Nil	11/11	41pm	18pm	‡UTC	19pm	−1
270	Nil	—	33pm	28pm	Wace Group 20p	33pm	......
115	Nil	—	30pm	22pm	Warringtons	28pm	......
40	Nil	—	73pm	70pm	‡Williams (Rex) 5p.	70pm	......

Renunciation date usually last day for dealing free of stamp duty. a Annualised dividend. b Figures based on prospectus estimates. d Dividend rate paid or payable on part of capital, cover based on dividend on full capital. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. F Dividend and yield based on prospectus or other official estimates for 1986/7. H Dividend and Yield based on prospectus or other official estimates for 1987. L Estimated annualised dividend, cover and p/e based on latest annual earnings. q Earnings based on preliminary figures. R Forecast annualised dividend, cover and p/e ratio based on prospectus or other official estimates. W Pro Forma Figures t Indicated dividends; cover relates to previous dividend; p/e ratio based on latest annual earnings. u Forecast, or estimated annualised dividend rate, cover based on previous year's earnings. ¶ Issued by tender. ‖ Offered holders of ordinary shares as a "rights." ‖‖ Introduction. ** Issued by way of capitalisation. § Placing price. §§ Reintroduced. ¶¶ Issued in connection with reorganisation merger or takeover. ■ Allotment price. ‡ Unlisted securities market. †† Official London listing. ‡‡ Including warrants entitlement. ‡ Placing and offer for sale price. * Third Market. †Issued in £2 Units comprising 2 Ord Shares & 1 Warrant. (Exercisable at 50p into 1 Ord.) ●With warrants

FT CROSSWORD PUZZLE No. 6,459

QUARK



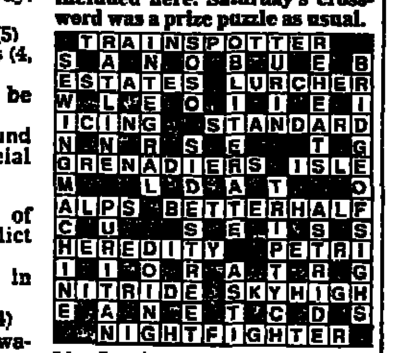
ACROSS

1 and 4 Game needing copyright? (6-2-6)
10 Among versatile instruments the —— (it sets the tone) (5-4)
11 House one way, then the other way. A big fuss (3-2)
12 Low-lying land by entry to dyke shut out (4)
13 Some items from the chemist do (form many branches) (10)
15 Address round food parcel? (7)
16 UN star out in outer space (6)
19 Keep it open to look at the hat (6)
21 As proof of will, head takes in plunder (7)
23 Err? Teach us to change colour (10)
25 Cut new growth and go away! (4)
27 There's money in a zoo (5)
28 You must, if tied like this (4, 5)
29 An extra student could be showing slackness (8)
30 Change direction round Durham area for superficial effect (6)

DOWN

1 Fussy embellishment of Rugby Union in conflict repeatedly (4-4)
2 Fabulous lady, green in fancy dress (9)
3 Recognises snow drifts (4)
5 They make the money nowadays (7)
6 Fatigue making for reduction in pressure (10)
7 End of road for explorer? Not much use (5)
8 One who cuts down exercises in back (6)
9 Stew with RN is split all over the place (6)
14 One way to express one's feelings abroad (6-4)
17 A pub, by the way (9)
18 Judge the musical instrument (8)
20 Reddens on breaking the plates? (7)
21 Assumes, takes the chair, under an order (6)
22 He keeps a book of matches
24 A side—not quite all relating to certain line (5)
26 Take top off furniture to get fit (4)

As a result of production difficulties the solution and winners of Puzzle 6,452 were omitted from Saturday's paper. They are included here. Saturday's crossword was a prize puzzle as usual.



Mrs R. Abrahamson, North Ferriby, Humberside; Mrs V. Sargent, Weybridge, Surrey; Mr R. C. Ingram, Wymondham, Norfolk; Mrs S. M. Newsum-Smith, Nottingham; Mr D. A. Yerrill, Slaughterbridge, Cornwall.

FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

FT UNIT TRUST INFORMATION SERVICE

Mercury Fund Managers—Contd.

Gen	88.1	88.5		7.97
Accum Units	104.7	105.2		2.97
Global Fund	54.1	57.2		0.64
(Accum Units)	54.1	57.2		0.64
High Income Fund	56.0	59.2xd		4.32
(Accum Units)	57.5	60.4xd		4.32
High Interest Fund	42.5	44.7		9.27
(Accum Units)	43.5	46.0		9.27
Income	132.6	140.5		2.60
(Accum Units)	153.0	161.9		2.60
International	309.0	326.9		1.86
(Accum Units)	386.6	409.0		1.86
Japan	217.7	230.3		0.52
(Accum Units)	223.4	236.3		0.52
Pacific Fund	60.6	64.1		0.10
(Accum Units)	60.6	64.1		0.10
Recovery	379.9	399.6xd		2.26
(Accum Units)	372.1	393.7xd		2.26
UK Smaller Co's Fund	59.6	62.8xd		1.56
(Accum Units)	60.0	63.4xd		1.56

Merlin Fund Mngmnt Ltd
30 St James St, London SW1A 1HB 01-925 3277

Merlin Oct 14	670.5	680.35		0.99

Metropolitan Unit Trust Mngrs Ltd
3 Darkes Lane, Potters Bar EN6 1AJ. 0707 45184

UK Income Fund	67.2	71.4		4.20
Accum Units	67.8	72.1		4.16
UK Growth Fund Acc	67.7	72.0		1.39
Global Income Fund	50.1	53.2	-0.3	3.76
Accum Units	50.1	53.2	-0.3	3.76
Global Growth Fund	50.3	53.5	-0.8	0.47

Midland Bank Group UT Mngrs. Ltd
Courtwood House, Silver St, Head, Sheffield S1 3RD
Tel: 0742 769842

Capital	136.7	145.1		1.06
(Accum Units)	188.0	200.4		1.06
Commodity & Gen.	194.6	206.5	-0.3	1.31
(Accum Units)	277.8	294.8	-0.3	1.31
European Growth	131.1	139.1	-2.8	1.00
(Accum Units)	158.1	167.8	-3.4	1.00
Extra High Inc	75.8	80.5xd		6.19
(Accum Units)	94.3	100.1		6.19
Gilt & Fxd. Int.	51.5	53.8		8.68
(Accum Units)	91.4	95.5		8.68
High Yield	234.9	249.3		3.88
(Accum Units)	415.7	441.1		3.88
Income	260.5	276.4		2.69
(Accum Units)	442.1	469.1		2.69
Intl High St UT	62.6	66.5		1.76
Do. Accum	62.6	66.5		1.76
Japan and Pacific	348.8	370.1	-3.9	0.10
(Accum Units)	364.4	388.8	-4.1	0.10
Managed Portfolio Acc	72.7	77.0	-0.4	1.19
North American	122.4	129.9	-2.8	1.21
(Accum Units)	147.8	156.9	-3.3	1.21
Smaller Cos.	222.9	236.6		1.01
(Accum Units)	241.3	256.1		1.01

MIM Britannia Unit Tst Mgrs Ltd (a)(c)(g)
74-78 Finsbury Pavement, London EC2A 1JD
01-588 2777 Dealing only: 0800 010733

UK Specialist Trusts

Growth Gilt	62.2	65.1	+0.0	0.39
Smaller Companies	274.6	292.9	+0.0	0.22
Special Features	168.6	179.8xd	+0.0	0.17
(Accum Units)	177.3	188.9	+0.0	0.16

General Funds

Assets & Earnings	69.8	74.5	+0.0	1.08
Accum Units	70.5	75.0	+0.0	1.07
Managed Invest Fund	68.3	72.9	+0.0	0.88
UK Growth	58.4	62.3	+0.0	0.65

High Income Funds

Extra Income	83.0	88.5	+0.8	4.99
Gilt	24.6	25.9	+0.0	9.40
Income & Growth	328.4	350.5xd	+0.0	2.71
National High Income	295.0	314.7xd	+0.0	3.50
Preference Shares	20.7	22.1	+0.0	8.31

Sector Specialist Funds

Commodity Shares	228.7	243.9	+0.0	0.10
Financial Securities	65.0	69.3	+0.0	0.39
Gold	96.5	104.0	+0.0	0.00
Accum Units	100.3	108.1	+0.0	0.00
International Leisure	17.0	18.3	+0.0	0.00
Property Shares	117.5	125.3xd	+0.0	0.00
Universal Energy	64.4	68.7	+0.0	0.78
World Technology	47.1	50.2	+0.0	0.00

Exempt Funds

Exempt	136.9	143.3	+0.0	2.31

Overseas Growth Funds

American Growth	102.9	109.8xd	+0.0	1.10
US Smaller Companies	68.5	73.1	+0.0	0.00
(Accum Units)	69.5	73.9	+0.0	0.00
Australian Growth	110.9	118.3xd	+0.0	0.00
Europe Perf	91.6	97.7xd	+0.0	0.38

Provident Mutual Unit Trust Managers Ltd.
25-31 Moorgate, London, EC2R 6AA. 01-588 3963

PM Equity Growth	127.1	135.3		0.95
PM Income and Growth	108.1	115.0xd		2.88
PM N American Growth	52.3	55.6	-1.7	0.36
PM European Growth	52.6	55.9		0.56
PM Japan Growth	72.6	77.2	-0.7	0.35
PM Overseas Growth	54.6	58.0		0.45

Prudential-Holborn Unit Trusts Ltd(a) (b) (c)
51-69 Ilford Hill, Ilford, Essex IG1 2DL 01-478 3377
Holborn LinkLine 0800 010345

Holborn Comm Tst.	85.9	90.8		0.34
Holborn Equity Income	79.3	83.9		3.07
Holborn Equity Tst	615.1	650.8xd		2.08
Holborn European Tst.	127.7	135.1		0.61
Holborn Gilt Tst.	207.9	216.2		2.20
Holborn High Inc Tst.	93.4	98.8xd		4.37
Holborn Intl Grth Tst	125.7	133.0		0.66
Holborn Intl Sm Cos	48.2	51.0		0.05
Holborn Japanese Tst.	145.0	153.4xd		0.04
Holborn N. Amer. Tst.	91.8	97.1		0.50
Holborn Sm Cos Tst.	86.2	91.2		1.28
Holborn Spec Sits Tst.	114.1	120.7		1.21
Holborn UK Growth Tst.	122.5	129.6		1.44

Quilter Management Co Ltd
31-45 Gresham Street, London EC2 01-600 4177

Quadrant Gen. Fd.	692.8	733.2xd		1.35
Quadrant Income	359.9	374.6		3.53
Quadrant Intl. Fund	461.1	488.0		1.08
Quadrant Spec. Sits	495.4	524.3xd		1.11

Reliance Unit Mgrs. Ltd
Reliance House, Tunbridge Wells, Kent 0892 510033

British Life	250.8	266.7xd		2.26
Reliance Unit Tst (Inc)	179.4	190.7xd		1.38
Reliance Ut Tst (Acc)	242.5	257.8		1.38

Rensburg Fund Managers
Silkhouse Ct., Tithebarn St., Liverpool. 051-227 2030

Internat. Growth Trust	49.9	52.6xd	-1.3	—

N.M. Rothschild Fund Mgmt
St Swithin's Lane, London EC4 01-654 2980/4

INSURANCES

FT UNIT TRUST INFORMATION SERVICE

Manufacturers Life Insurance—Contd.

Gilt-Edged Inc.	224.8		—
Do Accum	277.6		—
Guaranteed Inc	159.4		—
Do Accum	196.9		—
International Inc.	307.0		—
Do Accum	625.6		—
Index Lk. Gilt Inc	128.8		—
Do Accum	159.0		—

Merchant Investors Assurance
Leon House, 233 High St, Croydon 01-686 9171

Property	127.7		—
Property Pens.	438.1		—
Equity	205.3		—
Equity Pens.	940.5		—
Money Market	296.7		—
Money Mkt. Pens.	535.7		—
Deposit	240.5		—
Deposit Pens.	386.1		—
Managed	308.3		—
Managed Pens.	602.7		—
Intl Equity	361.9		—
Do. Pens.	991.2		—
Intl. Managed	331.7		—
Do Pens.	497.6		—
North American	129.3		—
Do Pens.	146.8		—
Far East	305.6		—
Do Pens.	456.2		—
Intnl. Currency	168.4		—
Do. Pens.	217.0		—
Index Linked	120.9		—
S & C Managed Fd.	142.7		—
S & C Pens Mngd Fd	117.0		—
Bell Chambers	131.2		—
Large & Loras	122.9		—
Mixed Mngd Fnd	162.2		—
Trustlink Life Funds			
Per Worldwide Rec.	173.8		—
Per Far East Growth	222.3		—
Per Intl Growth	167.3		—
Per Income	175.3		—
Per Emerging Co's	164.2		—
Per American Growth	140.8		—
Per European Growth	136.9		—
Fra American & Gen	120.0		—
Fra Capital	193.0		—

Norwich Union Asset Management Ltd
PO Box 124, Norwich NR1 1JS 0603 683986

NUAM Funds				
Managed Fund	57.8	60.9	-0.3	—
Spec Maxim Mngd Fund	59.6	62.8	-0.3	—
Equity Fund	65.5	69.0		—
International Fund	54.4	57.3	-0.9	—
European Fund	57.5	60.6	-1.0	—
North American Fund	47.5	50.1	-1.2	—
Pacific Fund	66.2	69.7	-0.2	—
Property Fund	53.0	55.8	—	—
Fixed Interest Fund	47.7	50.3		—
Index linked Sec Fund	44.0	46.4	-0.1	—
Deposit Fund	51.7	54.5		—
NUAM Retirement Plans				
Mixed Fund	62.6	65.9	-0.6	—
UK Ordinary Share	76.7	80.8	-0.8	—
International Fund	95.6	98.6	-1.2	—
Property Fund	53.0	55.8		—
Fixed Interest Fund	49.5	52.2	-0.4	—
Index Linked Sec Fund	44.4	46.8	-0.4	—
Deposit Fund	53.8	56.7	—	—
NUAM (NF)				
Managed Fund	797.6	839.6	-2.9	—
Equity Fund	1755.5	1847.9		—
Property Fund	329.5	346.9		—
Fixed Interest Fund	351.7	370.3	+0.1	—
Deposit Fund	211.3	222.5		—
International Fund	141.3	151.0	-2.2	—
Index Linked Sec Fund	44.1	46.5	-0.1	—

Norwich Union Life Insurance Soc.
PO Box 4, Norwich NR1 3NG 0603 622200

Pensionvestor* & Unit-Linked Plus*				
Fixed Interest Fund	250.8	264.0		—
Index-Linked Sec Fund	126.4	133.0		—
Ordinary Share Fund	565.0	594.7		—
International Fund	147.3	155.0		—
Property Fund	164.1	172.7		—
Deposit Fund	168.5	177.3		—
Mixed Fund	353.9	372.5		—
Norwich Units Oct 15		1047.9		—

*Prices as at June 30.

Pearl Assurance (Unit Funds) Ltd
252 High Holborn, London WC1V 7EB 01-405 8441

OFFSHORE AND OVERSEAS

MANAGEMENT SERVICES

FT UNIT TRUST INFORMATION SERVICE

LONDON SHARE SERVICE

BRITISH FUNDS

Interest Due		Stock	Price £	Last xd	Yield Int.	Yield Red.
"Shorts" (Lives up to Five Years)						
3May	3Nov	Treas. 12pc 1987	[illegible]	27.3	—	—
26 Jul	26 Jan	Treas 7¾pc 1985-88‡‡	[illegible]	19.6	7.79	9.20
10Nov	10May	Exch 10½pc '88	[illegible]	[illegible]	10.48	10.19
14Dec	14Jun	Treas 9¾pc Cv '88	[illegible]	8.5	9.78	10.17
1Jan	1Jul	Transport 3pc '78-88	[illegible]	26.5	3.10	7.87
25 Apr	25 Oct	Treas. 9¾pc '88	[illegible]	18.9	9.56	10.17
22 Aug	22 Feb	Treas 11½pc 1989	[illegible]	16.7	11.34	10.25
18 Oct	18 Apr	Treas 9½pc Cnv 1989	[illegible]	11.9	9.60	10.25
15Nov	15May	Treas 3pc 1989	[illegible]	[illegible]	3.22	7.57
14Dec	14Jun	Treas 10½pc 1989	[illegible]	[illegible]	10.49	10.38
1Feb	1Aug	Exch 10pc 1989	[illegible]	25.6	10.06	10.35
29 Mar	29 Sep	Exch 11pc 1989	[illegible]	24.8	10.88	10.33
15 Apr	15 Oct	Treas 5pc 1986-89	[illegible]	[illegible]	5.37	8.80
15 May	15 Nov	Exch 10¼pcCv '89	[illegible]	[illegible]	10.21	10.03
15 Jul	15 Jan	Treas 13pc 1990‡‡	[illegible]	[illegible]	12.34	10.23
12 Aug	12 Feb	Exch 11pc 1990‡‡	[illegible]	16.7	10.86	10.33
22 Sep	22 Mar	Exch. 12½pc 1990	[illegible]	17.8	11.96	10.33
8 Nov	8 May	Treas. 3pc 1990	[illegible]	[illegible]	3.38	7.91
15 Dec	15 Jun	Treas 8¼pc 1987-90‡‡	[illegible]	[illegible]	8.62	10.09
25 Apr	25 Oct	Treas. 10pcCv 1990	[illegible]	18.9	10.10	10.36
22 May	22 Nov	Exch 2½pc 1990	[illegible]	15.4	2.91	7.70
10 July	10 Jan	Treas 11¾pc 1991	[illegible]	[illegible]	11.35	10.40
5Oct	5Apr	Funding 5¾pc '87-91‡‡	[illegible]	[illegible]	6.43	9.40
13 Nov	13 May	Treas. 3pc 1991	[illegible]	[illegible]	3.54	7.99
12Jan	12July	Treas 10pc Cv '91 ‡‡	[illegible]	5.6	10.05	10.06
25Apr	25Oct	Exch. 11pc 1991	102	18.9	10.77	10.35
—		Treas. 8pc 1991	[illegible]	—		
22Jly	22Jan	Treas 12¾pc 1992‡‡	[illegible]	15.6	11.80	10.34
21Aug	21Feb	Treas 10pc 1992	[illegible]	15.7	10.12	10.31
13Oct	13Apr	Treas. 8pc 1992 ‡‡	[illegible]	—	8.70	10.25
7 Nov	7 May	Treas 10½pc Cv 1992‡‡	[illegible]	31.3	10.45	10.35
—		Treas. 3pc 1992	[illegible]	—	3.74	8.03

Five to Fifteen Years

Over Fifteen Years

BRITISH FUNDS—Contd

Undated

Index-Linked

INT. BANK AND O'SEAS GOVT STERLING ISSUES

CORPORATION LOANS

COMMONWEALTH & AFRICAN LOANS

LOANS

Building Societies

Public Board and Ind.

Financial

FOREIGN BONDS & RAILS

AMERICANS

Continued on next page

Money Market Bank Accounts

Money Market Trust Funds

UNIT TRUST NOTES

Closing prices, October 16

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
38 1/2	22	AAR s	.50	1.6	19	412	34 1/4	31	31 1/8	-3
32 1/2	17 1/2	AFG s	.16	.6	9	1004	27 7/8	25 1/2	25 3/4	-2 1/4
27	8	AGS s			19	850	21 3/4	19 1/4	20 1/8	-1 3/4
10 1/2	6 3/4	AMCA				1	9 5/8	9 5/8	9 5/8	
8 5/8	5 1/8	AM Intl			58	1449	6 3/4	6 5/8	6 5/8	-1/8
65 1/2	50 1/4	AMR			14	9840	50 3/8	d47 1/2	48 3/8	-1 7/8
25	22 1/4	ANR pf	2.12	10.		10	22 1/8	d21 1/4	21 1/4	-1
12 1/4	8 1/2	ARX s			10	353	10 5/8	10 1/8	10 1/8	-5/8
73 1/2	34 3/8	ASA	2a	3.1		939	65	62 5/8	64 7/8	+1 3/4
23 3/8	9 3/4	AVX			34	1055	18 1/4	16 1/2	17 7/8	-1
67	41 1/4	AbtLab	1	1.9	20	13115	54 1/4	50 3/4	52	-2 1/2
28	23 1/4	Abitibi g				18	25 3/8	25 1/8	25 1/8	-1/8
16 3/4	9 3/4	AcmeC	.40	3.1	13	247	14 3/8	13	13	-1 1/2
10 1/2	6 1/8	AcmeE	.32b	3.6	55	47	9	8 7/8	8 7/8	
27 7/8	19	AdaEx	3.30e	16.		283	21 1/2	20 1/2	20 5/8	-7/8
19 1/2	10	AdmMl s	.24	2.1	9	116	12 5/8	11 1/4	11 1/4	-1 1/2
35	13 1/4	AdvSys			21	928	33	31 7/8	32	-1 3/4
24 7/8	13 1/8	AMD				8013	19 5/8	17 1/2	18	-1
56 3/4	47	AMD pf	3	6.3		482	49 3/4	47 1/2	47 1/2	-2 1/2
11 7/8	5 1/4	Adobe				488	8 3/4	8 1/4	8 1/2	-1/8
20 1/2	14 3/4	Adob pf	1.84	9.7		24	19	18 7/8	18 7/8	-1/8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Continued on Page 47

LONDON SHARE SERVICE

INSURANCES—Continued

[illegible]

LEISURE

[illegible]

MOTORS

Motors and Cycles

[illegible]

Commercial Vehicles

[illegible]

Components

[illegible]

Garages and Distributors

[illegible]

NEWSPAPERS, PUBLISHERS

[illegible]

PAPER, PRINTING, ADVERTISING

[illegible]

PAPER, PRINTING—Continued

[illegible]

PROPERTY

[illegible]

SHIPPING

[illegible]

SHOES AND LEATHER

[illegible]

SOUTH AFRICANS

[illegible]

TEXTILES

[illegible]

TEXTILES—Cont.

[illegible]

TOBACCOS

[illegible]

TRUSTS, FINANCE, LAND

Investment Trusts

[illegible]

FINANCE, LAND—Cont.

[illegible]

Finance, Land, etc

[illegible]

OIL AND GAS

[illegible]

OIL AND GAS—Continued

[illegible]

OVERSEAS TRADERS

[illegible]

PLANTATIONS

Rubbers, Palm Oil

[illegible]

Teas

[illegible]

MINES

Central Rand

[illegible]

Eastern Rand

[illegible]

Far West Rand

[illegible]

O.F.S.

[illegible]

Diamond and Platinum

[illegible]

Central African

[illegible]

Finance

[illegible]

Australians

[illegible]

MINES—Continued

[illegible]

Tins

[illegible]

Miscellaneous

[illegible]

THIRD MARKET

[illegible]

Crown Eyeglass 5p	[illegible]						
Eglinton Expln. I.R.5.	26	—	—	—	—	—	
Do. Warrants	17	—	—	—	—	—	
Far East Res. 10p	160	—	—	—	—	—	
Gardiner (J.) 5p	106	—	R1.25	2.3	1.6	36.7	
Honorbilt Group 5p	49	—	—	—	—	41.2	
Leading Leisure 5p	121	—	0.9	3.1	1.0	35.0	
Lynx Tech. 5p	87	—	b—	—	—	10.0	
Medirace 10p	179	—	—	—	—	—	
♦Ovoca Gold IR0.02	91	—	—	—	—	—	
Publishing Hldgs.5p	65xr	—	—	—	—	39.1	
Theme Holdings	88	27.4	1.0	1.9	1.7	42.9	
UPL Group 10p	207	—	L2.41	2.8	1.6	—	
Unit Group	128	—	R4.6	2.5	5.0	(9.1)	

NOTES

Unless otherwise indicated, prices and net dividends are in pence and denominations are 25p. Estimated price/earnings ratios and covers are based on latest annual reports and accounts and, where possible, are updated on half-yearly figures. P/Es are calculated on "net" distribution basis, earnings per share being computed on profit after taxation and unrelieved ACT where applicable; bracketed figures indicate 10 per cent or more difference if calculated on "nil" distribution. Covers are based on "maximum" distribution; this compares gross dividend costs to profit after taxation, excluding exceptional profits/losses but including estimated extent of offsettable ACT. Yields are based on middle prices, are gross, adjusted to ACT of 27 per cent and allow for value of declared distribution and rights.

- ● "Tap Stock".
- * Highs and Lows marked thus have been adjusted to allow for rights issues for cash.
- † Interim since increased or resumed.
- ‡ Interim since reduced, passed or deferred.
- ‡‡ Tax-free to non-residents on application.
- ♦ Figures or report awaited.
- ♥ Not officially UK listed; dealings permitted under Rule 535(4)(a).
- ♣ USM; not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- ‡‡ Dealt in under Rule 535(3).
- # Price at time of suspension.
- ¶ Indicated dividend after pending scrip and/or rights issue: cover relates to previous dividend or forecast.
- ♦ Merger bid or reorganisation in progress.
- ♦ Not comparable.
- ♦ Same interim; reduced final and/or reduced earnings indicated.
- § Forecast dividend; cover on earnings updated by latest interim statement.
- ‡ Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend.
- ☆ Cover does not allow for shares which may also rank for dividend at a future date. No P/E ratio usually provided.
- Я No par value.

B.Fr. Belgian Francs. Fr. French Francs. §§ Yield based on assumption Treasury Bill Rate stays unchanged until maturity of stock. a Annualised dividend. b Figures based on prospectus or other offer estimate. c Cents. d Dividend rate paid or payable on part of capital, cover based on dividend on full capital. e Redemption yield. f Flat yield. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. j Payment from capital sources. k Kenya. m Interim higher than previous total. n Rights issue pending. q Earnings based on preliminary figures. s Dividend and yield exclude a special payment. t Indicated dividend: cover relates to previous dividend, P/E ratio based on latest annual earnings. u Forecast, or estimated annualised dividend rate, cover based on previous year's earnings. v Subject to local tax. x Dividend cover in excess of 100 times. y Dividend and yield based on merger terms. z Dividend and yield include a special payment: Cover does not apply to special payment. A Net dividend and yield. B Preference dividend passed or deferred. C Canadian. E Minimum tender price. F Dividend and yield based on prospectus or other official estimates for 1986-87. G Assumed dividend and yield after pending scrip and/or rights issue. H Dividend and yield based on prospectus or other official estimates for 1986. K Dividend and yield based on prospectus or other official estimates for 1987-88. L Estimated annualised dividend, cover and p/e based on latest annual earnings. M Dividend and yield based on prospectus or other official estimates for 1985-86. N Dividend and yield based on prospectus or other official estimates for 1987. P Figures based on prospectus or other official estimates for 1987. Q Gross. R Forecast annualised dividend, cover and p/e based on prospectus or other official estimates. T Figures assumed. W Pro forma figures. Z Dividend total to date.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xd ex capital distribution.

REGIONAL & IRISH STOCKS

The following is a selection of Regional and Irish stocks, the latter being quoted in Irish currency.

Albany Inv 20p	98	—	Fin. 13% 97/02	£107⅝	—
Craig & Rose £1	763	—	Arnotts	390	—
Finlay Pkg. 5p	116	—	CPI Hldgs	94	—
Holt (Jos) 25p	£11½xd	—	Carrol Inds.	190	—
IoM Stm. £1	355	—	Dublin Gas	408	—
			Hall (R. & H.)	175	—
			Heiton Hldgs.	72	—
IRISH			Irish Ropes	185	—
Fund 11¼% 1988	£100½	—	Norish	345	—
Nat. 9¾% 84/89	£96⅞	—	Unidare	440	—

TRADITIONAL OPTIONS

3-month call rates

Industrials	p		
Allied-Lyons	40	NEI	13
Amstrad	19	Nat West Bk	65
BAT	62	P & O Dfd	65
BOC Grp	50	Plessey	20
BSR	17	Polly Peck	34
BTR	36	Racal Elect	32
Babcock	32	RHM	35
Barclays	52	Rank Org Ord	70
Beecham	52	Reed Intnl	50
Blue Circle	58	STC	30
Boots	30	Sears	16
Bowaters	58	TI	37
Brit Aerospace	50	TSB	12
Brit. Telecom	28	Tesco	18
Burton Ord	32	Thorn EMI	65
Cadburys	25	Trust Houses	25
Charter Cons.	45	T&N	26
Comm Union	34	Unilever	62
Courtaulds	45	Vickers	20
FNFC	32	Wellcome	42
Gen Accident	95	**Property**	
GEC	22	Brit Land	30
Glaxo	200	Land Securities	58
Grand Met	50	MEPC	48
GUS 'A'	125	Peachey	40
Guardian	95	**Oils**	
GKN	38	Brit Petroleum	32
Hanson Tst.	17	Britoil	30
Hawker Sidd	58	Burmah Oil	52
ICI	125	Charterhall	10
Jaguar	52	Premier	11
Ladbroke	45	Shell	125
Legal & Gen	32	Tricentrol	11
Lex Service	45	Ultramar	26
Lloyds Bank	35	**Mines**	
Lucas Inds	75	Cons Gold	125
Marks & Spencer	22	Lonrho	28
Midland Bk	45	Rio T Zinc	180
Morgan Grenfell	55		

A selection of Options traded is given on the London Stock Exchange Report Page.

NOTICE OF REDEMPTION

of

Marine Midland Overseas Corporation

5% Subordinated Guaranteed Convertible Debentures Due 1988

(Convertible into Marine Midland Banks, Inc. Common Stock)

Redemption Date: November 9, 1987

Conversion Right Expires: November 9, 1987

NOTICE IS HEREBY GIVEN to holders of the 5% Subordinated Guaranteed Convertible Debentures Due 1988 (the "Debentures") of Marine Midland Overseas Corporation (the "Company") convertible into Marine Midland Banks, Inc. (the "Guarantor") common stock that, pursuant to the provisions of the Indenture dated as of May 15, 1968 (the "Indenture") among the Company, the Guarantor and Morgan Guaranty Trust Company of New York as Trustee, the Company has elected to redeem all the outstanding Debentures on November 9, 1987 (the "Redemption Date") at a redemption price of 100% of the principal amount thereof, together with accrued interest from May 15, 1987 to the Redemption Date in the amount of $24.17 for each $1,000 principal amount. Payment of the redemption price and accrued interest, which will aggregate $1,024.17 for each $1,000 principal amount of Debentures, will be made on or after the Redemption Date upon presentation and surrender of the Debentures at the offices of any one of the Paying and Conversion Agents set forth below.

Payments will be made on and after the Redemption Date against presentation and surrender of Debentures with coupon due May 15, 1988 attached either (a) at the Corporate Trust Department of Morgan Guaranty Trust Company of New York in New York City, or (b) subject to any laws or regulations applicable thereto in the country of any of the following offices, at the main office of Morgan Guaranty Trust Company of New York in Brussels, Frankfurt (Main), London or Paris or at the main offices of Bank Mees & Hope in Amsterdam, Swiss Bank Corporation in Basle, Banque Internationale a Luxembourg in Luxembourg, Credito Romagnolo S.p.A. in Milan, Swiss Credit Bank in Zurich, Union Bank of Switzerland in Zurich or Banque de l'Union Europeene Industrielle et Financiere in Paris.

The Debentures will no longer be outstanding after the Redemption Date. The redemption price will become due and payable upon each Debenture on the Redemption Date and interest thereon shall cease to accrue.

IMPORTANT: CONVERSION OF DEBENTURES MUST OCCUR ON OR PRIOR TO NOVEMBER 9, 1987 OR HOLDERS OF DEBENTURES WILL FORFEIT VALUABLE RIGHTS.

Holders of Debentures have the right, on or before the close of business on November 9, 1987, to convert the Debentures into fully paid and nonassessable shares of common stock of the Guarantor (the "Common Stock") at the rate of 25 shares of Common Stock per $1,000 principal amount. In order to exercise the conversion right, the holder of any Debenture to be converted shall surrender such Debenture, together with coupon due May 15, 1988 to any one of the Paying and Conversion Agents, accompanied by a written notice of such election executed by such holder, stating that the holder elects to convert such Debenture and specifying the name or names in which the shares of Common Stock deliverable upon conversion shall be registered, with the address of the person so named.

In accordance with the terms of the Indenture, no payment or adjustment shall be made upon any conversion on account of any interest accrued on the Debentures surrendered or on account of any dividends on the Common Stock issued upon conversion.

Any payment made within the United States or transferred to an account maintained by a non-U.S. payee with a bank in the United States may be subject to reporting to the United States Internal Revenue Service (IRS) and to backup withholding at a rate of 20% if payees not recognized as exempt recipients fail to provide the paying agent with an executed IRS Form W-8 certifying under penalties of perjury that the payee is not a United States person. Payments to non-exempt U.S. payees are reportable to the IRS and those U.S. payees are required to provide to the paying agent an executed IRS Form W-9 certifying under penalties of perjury the payee's taxpayer identification number (employer identification number or social security number, as appropriate) to avoid 20% withholding of the payment. Failure to provide a correct taxpayer indentification number or social security number will also subject a U.S. payee to a penalty of $50.

MARINE MIDLAND OVERSEAS CORPORATION
By: MORGAN GUARANTY TRUST COMPANY OF NEW YORK, as Trustee

October 9, 1987

Asia Pacific Growth Fund

The Quarterly Report as of 30 th June 1987 has been published and may be obtained from:

Pierson, Heldring & Pierson N.V.
Herengracht 214, 1016 BS Amsterdam.
Tel. + 31-20-211188

MOTOR INDUSTRY

The Financial Times is proposing to publish this Survey on
WEDNESDAY OCTOBER 21 1987
For full details, contact:
COLIN DAVIES
on 01-236 1434
FINANCIAL TIMES
EUROPE'S BUSINESS PAPER

Electronic Financial Services -Competition & Co-operation

19 & 20 October, 1987
London

The Financial Times fifth Electronic Financial Services conference will focus on competition and co-operation in financial services and the problems financial institutions face in managing technology to cope with the demands presented by the increased competition and deregulation.

Some of the speakers taking part include:

Mr Rudolf Bauer
Commerzbank AG

Mr Jacques De Keyser
Generale Bank

Mr Des Lee
Lloyd's of London

Mr Gene Lockhart
Midland Bank plc

Mr Bert Morris
National Westminster Bank PLC

Mr Trevor Nicholas
Barclays Bank PLC

FT Electronic Financial Services -Competition & Co-operation

To: Financial Times Conference Organisation
2nd Floor, 126 Jermyn Street, London SW1Y 4UJ
Tel: 01-925 2323
Tlx: 27347 FTCONF G
Fax: as tel no.
☐ Please send me further details

Name
Title
Company
Address
Country
Tel
Telex
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DIARY DATES

FINANCIAL

TODAY

BOARD MEETINGS-
Finals;
Barrett (Henry)
Edinburgh Investment Trust
G R Holdings
Highland Distillers
Lowland Investment
Sinclair (Wm)
Wolseley
Interims;
Aitken Hume Intl
Ferguson Industrial Holdings
Lanca
New Ireland Assurance
Scanro Hldgs
DIV & INTEREST PAYMENTS-
Blue Circle Inds. 5p
Bullers 0.5p
Campari Intl. 1.5p
Cannon Street Invs. 2p
Costain Group 3.65p
Dunton Group 0.3p
Equity & General 0 75p
Fleming Overseas Inv. Tst. 1.25p
IMI 2.75p
Johannesburg Cons. 235.3467p
Persimmon 3p
Sheldon Jones 3.3p
Tozer, Kemsley 0.6p

TOMORROW

COMPANY MEETINGS-
Howard Hldgs., Kingston Lodge Hotel, Kingston Hill, Kingston-upon-Thames, Surrey, 10.30
Osprey Communications, Founders Court, Lothbury, E.C., 11.00
Ricardo Consulting Engineers, St. Ermin's Hotel, Caxton Street, S.W., 12.00
BOARD MEETINGS-
Finals;
Beazer (C.H.)
Leisure Investments
Paterson Zochonis
Barry Wehmiller Intl
Interims;
Ambrose Investment Trust
Anchor Chemical
BDA Hldgs
Boot (Henry)
Davies & Newman
Derwent Valley
First Charlotte Assets Tst
DIVIDEND & INTEREST PAYMENTS-
Border Television 0.8p
Hughes Food Group 0.5p
Islington Corp. 11.9% Red. 2017 5.95pc.
Johnstones Paints 1.765p
Linread 1.25p
Merrydown Wine 5p
Miller & Santhouse 1.6p
Osprey Communications 2p
P-E Intl. 1.2p
Polly Peck Intl. 1.75p
Templeton, Galbraith 3.5cts.
Wells Fargo 39cts.

WEDNESDAY OCTOBER 21

COMPANY MEETINGS-
Abingworth, Mayfair Inter-Continental Hotel, Stratton Street, W., 12.15
Forminster, Britannia Hotel, Grosvenor Square, W., 12.00
Macro 4, Painters' Hall, 9, Little Trinity Lane, E.C., 12.00
Menvale Moore, Savoy Hotel, Strand, W.C., 12.00
Sanderson Murray & Elder, Victoria Hotel, Bridge Street, Bradford, 12.30
Smith (W.H.) & Son, Millbank Tower, S.W., 11.00
BOARD MEETINGS-
Finals;
Tottenham Hotspur
Interims;
Carlton Industries
Comprehensive Financial Services
Conrad Hldgs
Hawker Siddeley
House of Lerose
DIVIDEND & INTEREST PAYMENTS-
Abercom Group 9cts.
Christiana Bank OG Kreditkasse Flg. Rate Sub. Nts. Oct. 1997 $374.9
Co-operative Bank Sub. Flg. Rate Nts. 2000 £118.15
Die Erste Osterreich SparCasse Sub. Flg. Rate Nts. 1992 $374.9
Howard Hldgs. 1 4p
Jacksons Bourne End 4p
Lambert Howarth Group 2.65p
National Westminster Finance Gtd. Flg. Rate Cap. Nts. 2005 $365.38
New Kleinfontein Properties 14cts.
Provident Financial Group 4.5p
Sweden (Kingdom of) Flg. Rate Nts. April 2005 $368.92

THURSDAY OCTOBER 22

COMPANY MEETINGS-
Ebief, Prince of Wales Lane, Birmingham, 12.00
Framlington Group, 3, London Wall Buildings, E.C., 12.00
Haynes Publishing, Sparkford Motor Museum, Sparkford, Somerset, 1.00
Sirdar, Cedar Court Hotel, Wakefield, 12.00
BOARD MEETINGS-
Finals;
Govett Strategic Inv Tst
Manganese Bronze
Town Centre Secs
Interims;
British & Amer Film Hldgs
Gerrard & National
Hammerson Property Investment
Sunleigh Electronics
Vivat Hldgs
DIVIDEND & INTEREST PAYMENTS-
Bedford (William) 1.65p
Brammer 4.5p
Bristol & West Bldg. Society Flg. Rate Nts. 1992 £118.94
Britannia Bldg. Society Flg. Rate Nts. 1996 £237.25
British Assets Tst. 0.6p
Church & Co. 3p
Daniels (S.) 1.25p
Filofax 0.75p
Fisher (James) 1.7p
Industrias Penoles SA De C.V. Flg. Rate Nts. 1989 $256.56
Morgan (J.P.) ldr. 34cts.
Steel Burrill Jones 2.7p
Transcontinental Services 6p
Wilson (Connolly) 1p
Wood (John D.) 1.25p

FRIDAY OCTOBER 23

COMPANY MEETINGS-
Estates Property Inv., Armourers' Hall, 81, Coleman Street, E.C., 12.00
Gartmore European Inv. Tst., Cayzer House, 2, St. Mary Axe, E.C., 12.30
Intereuropa Technology, Ladbroke Mercury Hotel, Bagshot Road, Bracknell, Berks., 11.00
BOARD MEETINGS-
Finals;
LWT
Welkom Gold Mining
Interims;
Boosey & Hawkes
East Rand Gold & Uranium
Free State Consolidated Gold Mines
Govett Oriental Inv. Tst
Orange Free State Invs
Upton (E.)
DIVIDEND & INTEREST PAYMENTS-
Abbott Mead Vickers 1.8p
Automagic Hldgs. 4.25p
Britannia Arrow Hldgs. 2.3p
CPC Intl. 31cts.
Cooper (Alan) 1.5p
English & Scottish Investors 0.55p
Excalibur Jewellery 0.05p
Gibbs & Dandy 1p
Do. N/Vtg. A 1p
Highlands & Lowlands Berhad M$0.025
Holt (Joseph) 5p
Intl. Inv. Tst. Co. of Jersey 5p
Jacob (W. & R.) 2.6p
Lopex 2p
McAlpine (Alfred) 4.4p
Macdonald Martin Distilleries A 4p
Do. B 2p
Magnetic Materials 2p
NCR Corp. 25cts.
Neepsend 0.4p
Phicom 0.3p
Raglan Property Tst. 0.11p
Rivoli Cinemas 110p
Scottish Heritable Tst. 2p
Sedgwick Group 4p
Smith (W.H.) & Son A 5.4p
Do. B 1.08p
Tilbury Group 2.2p
VG Instruments 1.5p
West Trust 2.5p
Wickes 0.33p
Williams (Rex) Leisure 0.42p

SATURDAY OCTOBER 24

DIVIDEND & INTEREST PAYMENTS-
Diploma 7% Cum. Red. Prf. 2.45p
Ebief 0.95p
Steetley 4½% Cum. Prf. 1.575p

SUNDAY OCTOBER 25

DIVIDEND & INTEREST PAYMENTS-
Bankers Trust New York Corp. 41.5cts.
British Inv. Tst. 5% Deb. 1983/88 2½pc.
Conversion 9½% 2004 4¾pc.
Exchequer 11% 1991 5½pc.
Manufacturers Hanover 82cts.
RMC 7¾% Bds. 1987 3⅞pc.
Treasury 9½% 1988 4¾pc.
Treasury 10% Cnv. 1990 5pc.

Trade Fairs and Exhibitions:UK

Current
International Video and Communications Exhibition (01-240 1871) (until October 21).
Metropole Exhibition Hall, Brighton

October 20-23
International Feight Industry Conference and Exhibition - WORLD FREIGHT (01-642 7688)
Barbican Centre, London

October 21-23
International Exhibition for Police and Government Security Forces (01-855 9201)
NEC, Birmingham

October 22-November 1
Motorfair (01-385 1200) **Earls Court**

October 26-28
UK Corrosion Exhibition and *Conference (0202 35544)*
Metropole Exhibition Hall, Brighton

November 3-5
International Financial Services, Technology and Accountants Exhibition (01-749 9535)
Barbican Centre

November 3-7
International Plastics Exhibition - INTERPLAS (021-705 6707)
NEC, Birmingham

November 5-8
London Money Show - *MONEY* (01-948 5166)
Olympia

November 8-10
Camping and Outdoor Leisure Exhibition -COLA (08956 34191)
Exhibition Centre, Harrogate

November 10-12
Drives,Motors, Controls and *PC+ Systems Exhibitions* (0799 26699)
NEC, Birmingham

November 12-22
Scottish Motor Show (031-225 3643)
Exhibition Centre, Glasgow

November 22-28
International Building and Construction *Exhibition* (01-486 1951) **NEC, Birmingham**

December 1-3
International Trade and Services Exhibition and Conference - EXPORT (01-727 1929)
Business Design Centre,London

December 1-5
World Travel Market Exhibition (01-940 6065)
Olympia

Overseas

Current
Automobile Equipment & Maintenance Industries Exhibition - EQUIPAUTO (01-225 5566) (until October 22)
Paris

October 13-18
*Gifts,Toys and Housewares Mar*ket Week (01-937 1889)
Manila

October 24-November 1
National Transportation Fair - BRASIL TRANSPO (01-499 0877)
Sao Paulo

November 16-20
International Electronic Components Exhibition - COMPOSANTS ELECTRONIQUES (01-225 5566)
Paris

November 17-21
Machine Tools Exhibition - FINNTEC (01-486 1951)
Helsinki

November 17-21
Furniture and Woodworking Machinery Show (01-379 0765)
Taipei

November 25-28
North European Electronics,Electrical Engineering and Power Transmission Exhibition - ELECTROTEC (0202 687070)
Hamburg

Business and Management Conferences

October 19-20
Financial Times: Electronic financial services - competition and co-operation (01-925 2323)
Hotel Inter-Continental, W1

October 22
Space Planning Services: People and premises - a strategic approach to balancing conflicting demands (01-573 2271)
Butchers Hall, EC1

October 22
Burson - Marsteller : Successful crisis management (01- 831 6262
Barbican Centre,EC3

October 23-November 1
ECU Banking Association: World symposium on the role of the European currency unit (01-370 3178)
Antwerp

October 27-28
Financial Times: The fifth professional personal computer conference (01-925 2323)
Hotel Inter-Continental, W1

November 1-3
CBI National Conference (01-379 7400)
Glasgow

November 3-4
Kluwer Questmere Conferences: Financing UK Exports and Projects - changing Government support & alternative funding techniques (01- 568 6441)
Empire Conference Suite, London

November 4-5
Acquisitions Monthly: How to buy and sell companies (01-637 4383)
Inn on the Park, W1

November 5
The Institute of Directors : UK companies: the revenue offensive(01- 839 1233)
116 Pall Mall, SW1

November 5-6
Second Royal Institute of International Affairs/CICI International Information Conference: Day 1 - Information products as a stimulus to business growth; Day 2 - The development of Europe's new information markets (01-930 2233)
Chatham House, SW1

November 5
British Overseas Trade Group *for Israel: British financial ser*vices to Israel symposium (01-638 9537)
City of London

November 9
CBI: HIGH STREET 2000 - a consortium conference looking at the future of high street retailing (01- 379 7400)
Centre Point, London

November 10
Institute of Directors: Coping with growth - directing the expansion of your business (01-839 1233)
116 Pall Mall, London

Anyone wishing to attend any of the above events is advised to telephone the organisers to ensure that there has been no changes in the details published

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INTERNATIONAL BUSINESS MACHINES CORPORATION
NOTICE OF REDEMPTION
of
6-3/8% Exchangeable Subordinated Debentures Due 1996
Exchangeable for Capital Stock of Intel Corporation
Redemption Date November 10, 1987
Exchange Privilege Expires at the Close of Business on November 9, 1987

October 10, 1987

To the Holders of 6-3/8% Exchangeable Subordinated Debentures Due 1996:

International Business Machines Corporation, a New York corporation (the " Company "), has called for redemption on November 10th, 1987, all its outstanding 6-3/8% Exchangeable Subordinated Debentures Due 1996 (the " Debentures "), pursuant to Section 7 of the Terms and Conditions of the Debentures. The redemption price is 105% of the principal amount of each Debenture plus interest accrued to the redemption date (or U.S. $5,470.47 for each U.S. $5,000 principal amount of Debentures). Holders of Debentures may, at any time prior to the close of business on November 9, 1987, exchange their Debentures for shares of Capital Stock of Intel Corporation (" Intel Capital Stock ") pursuant to Section 4 of the Terms and Conditions of Debentures.

The following alternatives are available to the holders of Debentures:

(1) Holders may exchange their Debentures for shares of Intel Capital Stock in accordance with the provisions of the Debentures. Intel Corporation has declared a 3-for-2 stock split in the form of a stock dividend payable on October 28, 1987, to stockholders of record on September 28, 1987. The Debentures are currently exchangeable at a price of U.S. $38.50 principal amount of Debentures for each share of Intel Capital Stock, equivalent to 129.870 shares of Intel Capital Stock per U.S. $5,000 principal amount of Debentures. On and after October 28, 1987, the Debentures will be exchangeable at 194.805 shares per U.S. $5,000 principal amount of Debentures, equivalent to an exchange price of approximately U.S. $25.67 principal amount of Debentures for each share of Intel Capital Stock. As a result of the foregoing, holders of Debentures submitted for exchange who receive certificates for shares of Intel Capital Stock issued prior to October 28, 1987, will receive a certificate for a number of full shares of Intel Capital Stock based upon the exchange rate of 129.870 shares per U.S. $5,000 principal amount of Debentures, and a due-bill for an additional number of full shares, so that such holder will receive an aggregate number of full shares based upon the adjusted exchange rate of 194.805 shares per U.S. $5,000 principal amount of Debentures. Any such due bills will be non-transferable and will be satisfied by delivery of shares of Intel Capital Stock after October 28, 1987. Certificates issued on or subsequent to October 28, 1987, upon exchange for Debentures will represent a number of full shares based upon the adjusted exchange rate of 194.805 shares per U.S. $5,000 principal amount of Debentures. No payment will be made upon any exchange on account of interest on the Debentures or cash dividends on Intel Capital Stock. No fractional shares of Intel Capital Stock will be issued upon exchange of Debentures; instead, fractional shares will be paid for in cash based upon the Market Value (as defined in the Terms and Conditions of Debentures) of the shares on the business day next preceding the date the Debentures are delivered for exchange, as adjusted to reflect the 3-for-2 split where appropriate. The closing sale price of Intel Capital Stock as reported by NASDAQ on October 6, 1987, was U.S. $60.75 per share (which price did not reflect the 3-for-2 split).

(2) Holders may sell their Debentures on the open market.

(3) Holders may surrender their Debentures for redemption at the redemption price of 105% of the principal amount of the Debenture plus interest accrued to the redemption date. Interest will cease to accrue on the redemption date.

Exchange Privilege

Pursuant to Section 4(b) of the Terms and Conditions of Debentures, Debentures to be exchanged must be surrendered (in the case of a Bearer Debenture, together with all unmatured coupons appertaining thereto or, in lieu of any missing unmatured coupons, funds equal to the aggregate face amount of all such missing coupons) during regular business hours at the office of the Registrar or any Transfer Agent referred to below (or, in the case of a Bearer Debenture, only at the office of a Transfer Agent), by the close of business on November 9, 1987. The London office of Chemical Bank has been designated as an additional Transfer Agent for purposes of accepting Debentures surrendered for exchange. THE EXCHANGE PRIVILEGE FOR BEARER BONDS EXPIRES AT THE CLOSE OF BUSINESS ON NOVEMBER 9, 1987, AT 5 PM LONDON TIME, AND FOR REGISTERED BONDS AT 5 PM NEW YORK TIME ON THE SAME DATE.

Debentures surrendered for exchange must be accompanied by a written Exchange Notice stating that the holder elects to exchange such Debentures and also stating the name or names (with address and tax identification number to the extent required) in which the certificate or certificates for shares of Intel Capital Stock deliverable upon such exchange shall be issued. Registered Debentures surrendered for exchange must be accompanied by proper assignments thereof to the Company or in blank for transfer.

Pursuant to Section 4(b) of the Terms and Conditions of Debentures, the Company will, as promptly as practicable after receipt of the Exchange Notice and surrender of Debentures in proper form for exchange, deliver or cause to be delivered to the surrendering holder, at the office of the Registrar or Transfer Agent at which the Debentures were surrendered, a certificate or certificates for the shares of Intel Capital Stock deliverable upon exchange, together with payment for any fractional shares and, if necessary, a due-bill with respect to shares of Intel Capital Stock deliverable as a result of the 3-for-2 stock split described above. Notwithstanding the foregoing, holders may elect, pursuant to the Exchange Notice, to receive delivery of such stock certificates, due-bills (and stock certificates in respect thereof) and payments by mail. Any such delivery effected by mail shall be mailed to the address specified in the Exchange Notice, and such mailing shall be at the risk of the holder.

The closing sale price of Intel Capital Stock as reported by NASDAQ on October 6, 1987, was U.S. $60.75 per share. SO LONG AS THE MARKET PRICE OF INTEL CAPITAL STOCK EQUALS OR EXCEEDS U.S. $42.125 PER SHARE (OR U.S. $28.125 PER SHARE AFTER OCTOBER 28, 1987, REFLECTING THE 3-FOR-2 SPLIT REFERRED TO ABOVE), A HOLDER OF DEBENTURES WHO EXCHANGES SUCH DEBENTURES WILL RECEIVE INTEL CAPITAL STOCK WITH A MARKET VALUE, PLUS CASH IN LIEU OF FRACTIONAL SHARES, GREATER THAN THE AMOUNT OF CASH THAT THE HOLDER WOULD RECEIVE UPON REDEMPTION.

Redemption

Pursuant to Section 7 of the Terms and Conditions of Debentures, the Company's option to redeem the Debentures prior to March 1, 1989, is subject to the condition that the market price of the Intel Capital Stock is at least 130% of the exchange price, on each of the 30 successive trading days immediately preceding the fifteenth day prior to the initial publication of the notice of redemption. This condition was satisfied as of September 24, 1987.

The payment of the redemption price will be made (i) in the case of a Bearer Debenture, at the main office of the Fiscal Agent in London, or, subject to applicable laws and regulations, the office of any Paying Agent referred to below, and (ii) in the case of a Registered Debenture, at the principal corporate trust office of the Fiscal Agent in New York or, subject to applicable laws and regulations, the main office of Banque Internationale a Luxembourg referred to below, upon presentation and surrender of the Debentures to be redeemed (in the case of a Bearer Debenture, together with all unmatured coupons appertaining thereto).

FISCAL AGENT AND REGISTRAR
Chemical Bank, 55 Water Street, New York, New York 10041, United States

London Office of Fiscal Agent,
Chemical Bank, Chemical Bank House, 180 Strand, London WC2R 1EX, England

PAYING AGENTS
Chemical Bank, 85 Avenue Marceau, 75783 Paris, France
Chemical Bank A G , Ulmenstrasse 30, 6000 Frankfurt am Main 17, Germany
Chemical Bank, Freigutstrasse 16, CH-8039 Zurich, Switzerland

PAYING AND TRANSFER AGENTS
Chemical Bank, Chemical Bank House, 180 Strand, London WC2R 1EX, England
Banque Internationale a Luxembourg, 2 Boulevard Royal, 2953 Luxembourg Ville, Luxembourg
Kredietbank N.V., 7 Arenbergstraat, 1000 Brussels, Belgium

UNIT TRUST YEAR BOOK 1987

With over 1,000 unit trusts on the market offered by more than 150 management groups, both private investors and investment professionals need comprehensive guidance on this diverse and rapidly expanding market.

In the Year Book, you'll find detailed profiles of every authorised UK unit trust, with full performance figures for each of the past six years. Each profile states the minimum investment required; current value of the trust; the charges made; its principal holdings; a ten-year record of dividend distributions, and offer price highs and lows. Details for each management group include a summary history, address, telephone number, names of directors and names of the trusts managed.

As well as these detailed analyses, the Year Book includes a number of other valuable tables: rankings by percentage capital growth over a series of years; trusts *in order of size, including details for the last four years; trust yields, showing* changes in net distribution; monthly sales and total funds, and management groups in order of size and performance.

The Unit Trust Year Book also includes a number of important articles covering such vital topics as "Comments on Performance", "What is a Unit Trust?", How to Invest", "Choosing a Unit Trust", and "Getting Advice".

In short, the Year Book has *everything you need* to assess the value, performance - and future success - of those unit trusts already available.

Published April 1987.

CONTENTS

- Review of 1986
- *The future of the industry*
- Unit trusts - a new era?
- Comments on performance
- What is a unit trust?
- Glossary
- Choosing a unit trust
- How to invest
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- The role of the Unit Trust Association
- Performance tables
- Indices
- Table of trusts in order of size
- *Trust yield table*
- Monthly sales and total funds table
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- Trusts for pension funds and charities
- Trust name changes and mergers

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Jardine Strategic Holdings Limited

200,000
6½% Convertible Cumulative Preference Shares

Available in the form of International Depositary Receipts

NOTICE IS HEREBY GIVEN that the interim results of Jardine Strategic Holdings Limited for the six months ended 30th June, 1987 are available upon request from the Depositary and its Agent.

Depositary
Banque Indosuez Luxembourg
39 Allée Scheffer
L-2520 Luxembourg

Agent of the Depositary
Crédit Suisse
Paradeplatz 8
CH-8021 Zurich

19th October, 1987

FINANCIAL TIMES CONFERENCES

WORLD ELECTRICITY CONFERENCE
London, November 16 and 17 1987

A major addition to the FT energy conference programme is World Electricity to be held in London as the privatisation debate develops and many major issues face the industry, those who direct it and those who finance it. Sir Philip Jones is to take the chair on the opening day and the speakers include: M Pierre Delaport, of Eléctricité de France, Mr Svend Erik Hovmand, the Danish Energy Minister, Dr Walter Fremuth, Chairman of the Austrian Electrical Corporation, Dr Axel Lippert, Managing Director of Bayer, Mr David Penn of Wisconsin Public Power, Mr Christopher Johnson, Chief Economic Adviser of Lloyds Bank, Mr William Varoquaux of Eléctricité de France and Dr J. C. Bupp of Cambridge Energy Research Associates.

WORLD TELECOMMUNICATIONS
London, December 1 and 2 1987

Lord Young will give the opening address to the Financial Times eighth World Telecommunications conference. The changing pattern of competition in global markets will be reviewed by Mr James Olson, Chairman of the Board, A. T. & T., Mr William Weiss, Chairman and Chief Executive Officer, Ameritech and Mr Iain Vallance, Chairman, British Telecommunications. Professor Eberhard Witte will speak on German Telecommunications strategy, and Sir Eric Sharp will review the problems and prospects for global networks.

VENTURE CAPITAL FINANCIAL FORUM
London, December 3 and 4 1987

This will be the fifth in the highly successful series of Venture Capital Financial Forums arranged by the Financial Times and the British Venture Capital Association. The event provides a unique opportunity for investment managers and senior executives from financial institutions and industrial companies to meet some of the leading venture capital backed companies in Britain—all of which will either be raising additional venture capital funding or seeking a public quotation, be it on the USM, the third market, or by way of a full stock market listing, in the foreseeable future. The Forum is also for those raising equity for the first time.

All enquiries should be addressed to:
The Financial Times Conference Organisation
2nd Floor, 126 Jermyn Street, London SW1Y 4UJ
Tel: 01-925 2323 (24-hour answering service)
Telex: 27347 FT CONF G — Fax: 01-925 2125

WORLD STOCK MARKETS

AUSTRIA

1987 High	1987 Low	October 16	Price Sch %
2,410	1,890	Creditanstalt	2,260
3,450	2,460	Goesser	3,395
13,200	10,800	Interunfall	12,700
14,000	7,050	Jungbunzlauer	8,885
432	348	Laenderbank	409
780	565	Perlmooser	735
167	108	Steyr-Daimler	123
1,113	690	Veitscher Mag	854

BELGIUM/LUXEMBOURG

1987 High	1987 Low	October 16	Price Frs.
3,465	2,850	B.B.L.	2,850
16,000	14,500	Banque Gen. Du L.	14,600
15,280	4,260	Bank Int. A	14,200
13,175	9,000	Bekaert B	9,810
6,880	3,900	Ciment CBR	6,000
186	131	Cockerill	160
12,100	8,500	Cobepa	8,500
5,050	2,700	Delhaize	4,600
5,500	4,570	EBES	4,570
2,700	1,270	Fabrique Nat	1,270
1,440	926	GB Inno BM	1,214
4,525	3,430	GBL(Brux)L	3,810
6,850	5,800	Generale Bank	5,800
9,260	6,009	Gevaert	7,900
9,100	6,680	Hoboken	7,700
4,510	3,520	Intercom	3,580
4,900	4,040	Kredietbank	4,090
13,450	10,650	Pan Holdings	13,500
14,125	9,210	Petrofina	12,200
1,870	1,520	Raffinerie Tirle	1,565
8,000	5,000	Royale Belge	6,030
4,195	3,115	Soc Gen Belge	3,520
16,350	10,375	Sofina	13,400
15,850	8,270	Solvay	13,700
560	185	Stanwick Intl	560
8,550	6,200	Tractebel	7,100
11,950	8,900	UCB	10,100
6,000	5,160	Wagons Lits	5,320

DENMARK

1987 High	1987 Low	October 16	Price Kr %
1,140	720	Baltica Hldgs	1070.00
288	237	Cop Handelsbank	251.00
410	280	D. Sukkerfab	320.00
375	297	Den Danske Bank	332.00
228	160	East Asiatic	222.00
1,040	805	Forenede Bryg	985.00
357	211	GNT Holding	283.00
890	695	I.S.S.S. Systems	875.00
575	455	Jyske Bank	470.00
298	194	Novo Inds*	194.00
295	243	Privatbanken	250.00
1,090	675	Sophus Berendsen	1090.00
254	149	Superfos	248.00

FINLAND

1987 High	1987 Low	October 16	Price Mka
263.5	148.5	Amer	261
70.55	43.75	KOP	67.5
263.5	184	Kone	246
118	88	Finnish Sugar	88.75
153	98	Kymmene	143.5
247	132.5	Nokia	237
125.5	69	Pohjola 'B'	118.5
37	19	Rauma-Repola	34.25
291	137.5	Stockmann 'B'	289
39.8	28.8	UBF'C'	36.8
175.5	150	Utd. Paper	169.5
296.5	156.5	Wartsila (£1)	296.5

FRANCE

1987 High	1987 Low	October 16	Price Frs.
1,985	1,515	Emprunt 4.5% '73	1,840
9,615	6,600	Emprunt 7% 1973	9,045
573	418	Accor	425
632.5	502.5	Agence Havas	520
768	611	Air Liquide	628
3,005	1,950	Alcatel	1,980
868	666	BIC	680
619	395	BNP (Cert.Inv.)	397
3,100	2,380	Bongrain	2,590
5,220	990	Bouygues	1,044
5,400	4,150	BSN Gervais	4,770
3,895	2,905	Carrefour	2,970
746	572	Club Mediterranee	604
1,185	550	Cie Bancaire	555
407	280	Cofimeg	280
347	297.5	CGE	309
3,300	2,360	Dassault	2,785
545	379	Darty	417
1,280	880	Dumez S.A.	902
1,543	1,112	Eaux (Cie Gen)	1,140
398	305	Elf-Aquitaine	313
4,230	3,219	Essilor	3,300
1,380	945	Gen.Occidentale	955
194.5	84.6	Imetal	171
1,760	1,326	Lafarge Coppee	1,547
4,053	3,154	L'Oreal	3,580
3,350	2,179	Legrand	2,950
196	57	Maisons Phenix	72
2,865	2,030	Matra S.A.	2,051
384	245	Michelin B	284
1,734	1,140	Midi (Cie)	1,170
2,985	2,130	Moet-Hennessy	2,190
119	65	Moulinex	74
229	130	Nord Est	132
549	405	Paribas	412
1,186	862	Pernod Ricard	899
927	716	Perrier	800
558	380	Petroles Fra	383
1,678	1,132	Peugeot S.A.	1,405
828	456	Printemps Au	645
1,810	995	Radiotech	1,485
3,600	2,475	Redoute	3,140
1,925	1,222	Roussel-Uclaf	1,222
523	390	St. Gobain	501
500	420	Sefimeg	424
1,560	1,140	Skis Rossignol	1,175
3,900	2,850	Telemech Elect	3,400
1,745	1,107	Thompson (CSF)	1,107
710	502	Valeo	610

ITALY

1987 High	1987 Low	October 16	Price Lire
6,950	2,690	Banca Com'le	3,100
715	361	Bastogi-IRBS	415
7,155	5,020	CIR	5,100
3,650	1,703	Credito Italian	1,990
17,163	10,180	Fiat	13,000
141,200	103,000	Generali Assicur	108,500
120,700	72,000	Italcementi	119,000
1,340	960	La Rinascente	1,062
2,968	2,140	Montedison	2,190
14,700	10,840	Olivetti	11,400
7,840	5,350	Pirelli Co	6,050
5,750	4,024	Pirelli Spa	4,700
4,360	3,140	Saipem	3,650
4,895	2,985	Sna BPD	3,885
35,500	25,000	Toro Assic	29,190

GERMANY

1987 High	1987 Low	October 16	Price Dm.
360.2	280	AEG	311
1,976	1,209	Allianz AG	1,580 xr
346.7	239	BASF	329
377.3	274	Bayer	355.5
563	365	Bayer-Hypo	467
523	375	Bayer-Verein	457
543	390	BHF-Bank	461
787	455	BMW	708
369	270	Brown Boveri	332.5
312	244.5	Commerzbank	282.5
374	269	Cont'l Gummi	320.5
1,220	920	Daimler-Benz	1,023
579	420	Degussa	458
254	200	D'sche Babcock	230
790	571	Deutsche Bank	640
381	286	Dresdner Bank	335.5
350.5	268	Feldmuehle Nobel	315
599.5	458	Henkel	563.5
1,110	612	Hochtief	640
344	240	Hoechst	318.5
137.9	88	Hoesch Werke	126
555	367	Holzmann (P)	395
293	201	Horten	238
690	507	Hussel	627
601	403	Karstadt	575
541	447	Kaufhof	524
280	142	KHD	185
163.5	130	Kloeckner Werke	132
795	589	Linde	745
215.5	122	Lufthansa	177.8
204	148	MAN	190.5
188.5	142	Mannesmann	177.5
1055.5	740	Mercedes Hld	883
415	250	Metallgesell	393
2,700	1,550	Muench Rueck	1,850
866.5	687	Nixdorf	814.5
1,025	815	Porsche	884
206	145	Preussag	199
266.5	186	Rhein West Elect	232.5
346	238	Rosenthal	284
691	524	Schering	593
747.5	620	Siemens	639.5
142.1	109	Thyssen	137.3
388	311	Varta	355.5
333	252	Veba	304
180	139.5	V.E.W.	166
486	375	Verein-West	434
430	312	Volkswagen	364.5

NETHERLANDS

1987 High	1987 Low	October 16	Price Fls.
66.8	55.5	ACF Holding	57.30
102.1	78	AEGON	82.80
112	91.2	Ahold	97.60
178.4	127.9	AKZO	162.50
53	42.8	ABN	42.80
75.4	57	AMEV	57.00
90.9	70	AMRO	77.20
65.3	48.2	Buehrmann-Tet	59.80
270	195.5	Dordtsche Petroleum	227.50
70	46	Elsevier Ndv	54.00
62	44	Fokker	44.20
53.5	39	Gist Brocades	45.80
198	145	Heineken	165.50
49.8	29.7	Hoogovens	44.50
69	48.4	Hunter Douglas	64.70
24.1	16.6	IHC Caland	22.70
71.5	56	Int Mueller	57.50
57.4	35.1	KLM	47.00
173.5	133.5	KNP	153.50
81.7	66	Nat Ned Cert.	67.90
197	153	Ned Mid Bank	154.00
197	128.5	Ned Lloyd	184.60
476	350	Oce Grinten	352.00
41.6	33	Ommeren (Van)	33.00
88.9	60	Pakhoed	83.60
56.3	43	Philips	48.20
116	94	Robeco	108.10
146.8	137.6	Rodamco	144.50
109.9	82.8	Rolinco	102.40
52.6	49.6	Rorento	51.10
297.2	207.8	Royal Dutch	249.30
692.3	125.1	Unilever	125.10
28	20.3	VMF Stork	20.30
97.5	68	VNU	85.50
97.5	73	Wessanen	86.70
140	106.5	Wolters Kluwer	129.00

NORWAY

1987 High	1987 Low	October 16	Price Kroner
101.5	57	Aker Norcem	92.50
253	169	Bergen Bank	226.00
490	260	Bergesen B	487.50
263	176	Christiania Bk	234.00
208	148	Den Norske Credit	184.00
167	86.5	Elkem	145.00
663	250	Hafslund	608.00
179	128.5	Kosmos	167.50
338	170	Kvaerner	300.00
280	204	Norsk Data	251.00
263	131	Norsk Hydro	255.00
4,705	368	Orkla Borregaard	572.50
475	290	Storebrand	467.00

SPAIN

1987 High	1987 Low	October 16	Price Pts.
2,300	292	Alcazar	795.00
1,970	1,275	Banco Bilbao	1847.00
1,240	970	Banco Central	1139.00
680	385	Banco Exterior	630.00
870	458	Banco Hispano	820.00
2,080	1,395	Banco Popular	1790.00
1,375	930	Banco Santander	1330.00
2,071	1,067	Banco de Vizcaya	1845.00
1,480	610	Banesto	1319.00
870	450	Dragados	720.00
113.2	52.2	Hidrola	96.70
165.4	80.2	Iberduero	128.50
825	375	Petroleos	706.00
253	146.5	Telefonica	215.70

SWEDEN

1987 High	1987 Low	October 16	Price Kroner
228	142	AGA (Free)	209.00
380	261	Alfa-Laval	343.00
453	286	ASEA B (Free)	430.00
290	239	Astra B (Free)	239.00
215	140	Atlas Copco	199.00
240	136	Beijer A Fria	233.00
360	143	Cardo (Free)	297.00
393	235	Cellulosa	379.00
342	274	Electrolux B	324.00
298	189	Ericsson	228.00
210	124	Esselte	198.00
575	210	Mo Och Domsjo	570.00
261	187	Pharmacia	221.00
295	208	Saab-Scania (free)	262.00
220	135	Sandvik	206.00
217	110	Skandia Ins	209.00
309	229	Skanska Intl	280.00
166	104	Stan Enskilda	148.00
397	310	SKF	372.00
505	269	St Kopparbergs	484.00
540	380	Sven Handelsbn	540.00
123	82	Swedish Match	117.00
430	261	Volvo B (Free)	412.00

SWITZERLAND

1987 High	1987 Low	October 16	Price Frs.
13,550	8,725	Adia Intl	12,725
959	430	Alusuisse	925
4,140	2,925	Bank Leu	3,575
3,250	1,570	Brown Boveri	3,125
4,220	2,920	Ciba Geigy	3,890
2,910	2,000	do. (PtCts)	2,700
3,840	2,900	Credit Suisse	3,390
4,210	3,400	Elektrowatt	3,925
1,990	1,370	Fischer (Geo.)	1,650
196,250	111,000	Hoff-Roche (PtCts)	145,000
15,450	11,950	Hoff-Roche 1/10	14,425
11,200	7,900	Jacobs Suchard	10,400
4,190	3,275	Jelmoli	3,950
2,010	1,500	Landis and Gyr	1,920
11,460	8,625	Nestle	10,600
1,725	1,110	Oer-Buhrle	1,625
2,450	2,050	Pargesa Hldg	2,310
460	389	Pirelli	428
15,800	10,300	Sandoz (Br)	15,500
2,745	1,550	Sandoz (PtCts)	2,475
950	590	Schindler (PtCts)	880
900	583	Sika	850
8,950	6,010	Surveillance	6,850
1,490	1,080	Swissair	1,400
572	421	Swiss Bank	509
20,300	15,200	Swiss Reinsce	19,100
2,788	1,960	Swiss Volksbk	2,350
6,120	4,350	Union Bank	4,815
7,500	5,800	Winterthur	7,050
7,917	5,875	Zurich Ins	7,100

AUSTRALIA

1987 High	1987 Low	October 16	Price Aust$
4.65	2.55	ACI Int.	4.30
4.35	1.8	A.F.P.	3.90
14.5	7.9	Adelaide Steams	10.15
6	4.15	Amcor	5.50
5.84	2.8	ANZ Group	5.22
4.3	2.66	Ampol Pet	4.20
3.75	2.25	Ariadne Aust	2.25
4.7	2.7	Ashton	3.05
4.1	2.25	Aust Consnd	4.10
2.92	1.05	Aust Nat Inds	2.42
10.6	7.1	Bell Group	9.80
[illegible]	[illegible]	[illegible]	[illegible]

JAPAN

1987 High	1987 Low	October 16	Price Yen
[illegible]	[illegible]	[illegible]	[illegible]

HONG KONG

1987 High	1987 Low	October 16	Price H.K.$
[illegible]	[illegible]	[illegible]	[illegible]

SOUTH AFRICA

1987 High	1987 Low	October 16	Price Rand
[illegible]	[illegible]	[illegible]	[illegible]
20	13	OK Bazaars	17.00
15.5	10	Rembrandt	14.50
63	44.87	Rust Plat	59.25
35	17.5	Safren	31.00
20	10	Sage Holdings	16.50
26.25	15.3	SA Brewers	25.00
48.9	29.75	Smith (C.G)	47.50
16.5	7.75	Tongaat Hulett	15.50

SINGAPORE

1987 High	1987 Low	October 16	Price S$
[illegible]	[illegible]	[illegible]	[illegible]

NOTES – Prices on this page are as quoted on the individual exchanges and are last traded prices. (u) unavailable. # Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all. * Price in Kroner

CANADA

TORONTO

Closing prices October 16

Sales	Stock	High	Low	Close	Chng
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MONTREAL

Closing prices October 16

Sales	Stock	High	Low	Close	Chng
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

OVER-THE-COUNTER

Nasdaq national market, closing prices, October 16

Continued from Page 47

Stock	Sales (Hnds)	High	Low	Last	Chng
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Indices

NEW YORK — DOW JONES

	October 16	October 15	October 14	October 13	1987 High	1987 Low	Since compilation High	Since compilation Low
♦Industrials	2246.74	2355.09	2412.70	2508.16	2722.42 (25/8)	1927.31 (2/1)	2722.42 (25/8/87)	41.22 (2/7/32)
Home Bonds	82.28	82.26	82.74	83.00	95.51 (9/2)	83.52 (1/10)	-	-
Transport	941.65	988.24	1011.59	1033.46	1101.16 (14/8)	806.38 (2/1)	1101.16 (14/8/87)	12.32 (8/7/32)
Utilities	190.14	196.60	198.49	200.57	227.83 (22/1)	191.39 (20/5)	227.83 (22/1/87)	10.5 (8/4/32)

♦Day's High (u) (2439.78) Low (u) (2345.63)

STANDARD AND POOR'S

	October 16	October 15	October 14	October 13	1987 High	1987 Low	Since compilation High	Since compilation Low
Composite ‡	282.70	298.08	305.23	314.52	336.77 (25/8)	246.45 (2/1)	336.77 (25/8/87)	4.40 (1/6/32)
Industrials	325.43	343.57	364.49	364.50	393.17 (25/8)	274.58 (2/1)	393.17 (25/8/87)	3.62 (21/6/32)
Financials	27.90	28.99	29.33	30.06	32.43 (25/8)	25.97 (29/5)	32.43 (25/8/87)	8.64 (1/10/74)
NYSE Composite	159.13	167.45	171.26	176.02	187.99 (25/8)	141.01 (2/1)	187.99 (25/8/87)	4.46 (25/4/42)
Amex Mkt. value	325.55	335.80	340.72	344.62	365.01 (13/8)	267.49 (2/1)	365.01 (13/8/87)	29.31 (9/12/72)
NASDAQ OTC Comp	406.33	422.51	429.28	434.81	455.28 (26/8)	353.26 (2/1)	455.28 (26/8/87)	54.87 (31/10/72)

	Oct. 10	Oct. 2	Sept. 25	year ago (approx.)
Dow Industrial Div Yield	2.78	2.61	2.68	3.82

	Oct. 14	Oct. 7	Sept. 30	year ago (approx.)
S & P Industrial Div. yield	2.48	2.78	2.31	2.99
S & P P/E ratio	21.77	22.10	23.20	17.70

TRADING ACTIVITY

† Volume Millions	Oct. 16	Oct. 15	Oct. 14
New York	343,204	264,073	207,222
Amex	18,450	12,607	9,593
OTC	(u)	159,775	145,554

NEW YORK	Oct. 16	Oct. 15	Oct. 14
Issues Traded	(u)	2,025	1,997
Rises	(u)	289	275
Falls	(u)	1,434	1,395
Unchanged	(u)	302	329
New Highs	(u)	(u)	(u)
New Lows	(u)	(u)	(u)

CANADA

TORONTO

	Oct. 16	Oct. 15	Oct. 14	Oct. 13	1987 High	1987 Low
Metals & Minerals	3208.2	3304.3	3375.9	3379.0	3537.5 (5/10)	1988.2 (2/1)
Composite	3598.6	3674.9	3719.5	3759.9	4112.9 (13/8)	3067.8 (2/1)
MONTREAL Portfolio	1762.03	1804.38	1831.3	1856.71	1234.56 (12/12)	1534.3 (2/1)

	Oct. 16	Oct. 15	Oct. 14	Oct. 13	1987 High	1987 Low
AUSTRALIA All Ord (1/1/80)	(u)	2146.4	(u)	2167.3	2305.9 (21/9)	1486.7 (2/2)
Metals & Minerals (1/1/80)	(u)	1303.9	1462.4	1325.1	1462.4 (14/10)	729.1 (2/1)
AUSTRIA Credit Aktien (30/12/84)	224.91	223.75	225.95	225.89	232.19 (22/9)	182.21 (19/6)
BELGIUM Brussels SE (1/1/84)	4222.50	4859.40	4972.90	4418.50	5412.20 (13/8)	3987.86 (9/1)
DENMARK Copenhagen SE (3/1/83)	(u)	211.80	212.30	212.30	219.76 (27/8)	189.64 (6/1)
FINLAND Unitas General (1975)	(u)	679.1	676.7	677.4	679.1 (15/10)	425.2 (5/1)
FRANCE CAC General (31/12/82)	369.6	366.1	387.4	388.5	460.4 (26/3)	366.1 (15/10)
Ind Tendance (31/12/86)	97.4	94.7	99.0	101.2	117.2 (26/3)	94.7 (15/10)
GERMANY FAZ Aktein (31/12/58)	613.67	621.64	633.52	631.39	676.84 (6/1)	538.32 (19/3)
Commerzbank (1/12/53)	1876.60	1902.60	1946.90	1937.20	2061.10 (17/8)	1633.80 (19/3)
HONG KONG Hang Seng Bank (31/7/64)	3783.20	3695.53	3944.48	3695.53	3949.73 (1/10)	2448.88 (20/1)
ITALY Banca Com. Ital (1972)	(u)	665.47	658.86	661.71	767.34 (30/4)	588.83 (15/9)
JAPAN** Nikkei (16/5/49)	26366.74	26428.22	26646.43	26366.06	26646.43 (14/10)	18544.00 (13/1)
Tokyo SE New (4/1/68)	2152.98	2158.61	2039.80	2039.80	2258.56 (11/6)	1557.46 (13/1)
NETHERLANDS ANP CBS Gen (1970)	(u)	290.3	301.9	302.7	334.1 (14/8)	257.7 (20/1)
ANP CBS Indust. (1970)	(u)	243.1	(u)	253.7	280.8 (11/8)	243.1 (15/10)
NORWAY Oslo SE (4/1/83)	569.42	577.48	575.16	575.85	592.04 (21/9)	361.98 (2/1)
SINGAPORE Straits Times (30/12/66)	1392.40	1426.10	1430.70	1434.90	1505.40 (26/8)	889.08 (2/1)
SOUTH AFRICA JSE Gold (28/9/78)	(u)	2289.0	2282.0	2279.0	2499.0 (3/8)	1786.0 (19/3)
JSE Indust (28/9/78)	(u)	2265.0	2257.0	2257.0	2257.0 (30/9)	1423.0 (2/1)
SPAIN Madrid SE (30/12/85)	307.53	310.22	316.13	321.39	325.44 (6/10)	202.89 (8/5)
SWEDEN Jacobson & P. (31/12/56)	3149.10	3200.70	3242.00	3206.50	3350.40 (9/10)	211.39 (28/1)
SWITZERLAND Swiss Bank Ind. (31/12/58)	705.2	712.1	722.1	717.0	729.7 (5/10)	559.7 (25/2)
WORLD M.S.Capital Intl. (1/1/70)	(u)	484.4	486.5	486.5	495.9 (27/8)	361.3 (2/1)

** Saturday October 10 Japan Nikkei (c), TSE (c)

Base values of all indices are 100 except Brussels SE – 1,000 JSE Gold – 255.7 JSE Industrials – 264.3 and Australia, All Ordinary and Metals – 500; NYSE All Common – 50; Standard and Poor's – 10; and Toronto Composite and Metals – 1000. Toronto indices based 1975 and Montreal Portfolio 4/1/83. † Excluding bonds. ‡ 400 industrials plus 40 utilities, 40 Financials and 20 transports. (c) Closed.(u) Unavailable.

NEW YORK ACTIVE STOCKS

FRIDAY	Stocks traded	Closing price	Change on day		Stocks traded	Closing price	Change on day
AT & T	5,950,000	30	[illegible]	Gillette	3,956,100	33	[illegible]
Exxon	4,711,000	43½	[illegible]	Allegis	3,398,800	[illegible]	[illegible]
IBM	4,661,600	135	[illegible]	Nat Semicondtrs	3,213,600	17¼	[illegible]
Gen Electric	4,595,000	50¼	-3	Am Express	3,171,800	30½	-3
Eastman Kodak	4,501,800	90⅞	[illegible]	Santa Fe	3,149,200	51	-5¼

Closing prices, October 16

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev Close
38½	22	AAR s	.50	1.6	19	412	34¼	31	31⅛	-3
32½	17½	AFG s	.16	.6	9	1004	27⅛	25½	25¾	-2¼
27	9	AGS s			19	850	21¾	19¼	20⅝	-1¾
10½	6¾	AMCA				1	9⅞	9⅞	9⅞	
9⅞	5⅛	AM Intl			58	1449	6¾	6⅝	6⅝	-⅝
65½	50¼	AMR			14	9840	50⅝	d47½	48⅝	-1⅞
25	22¼	ANR pf	2.12	10.		10	22⅛	d21¼	21¼	-1
12¼	8½	ARX s			10	353	10⅝	10⅛	10⅛	-⅝
73½	34⅝	ASA	2a	3.1		939	65	62⅝	64⅞	+1¾
22⅝	9¾	AVX			34	1055	18¼	16½	17⅛	-1
67	41¼	AbtLab	1	1.9	20	13115	54¼	50¾	52	-2½
28	23¼	AccuBl g				18	25⅝	25⅛	25⅛	-⅛
16¾	9¾	AcmeC	.40	3.1	13	247	14⅛	13	13	-1⅛
10½	8⅛	AcmeE	.32b	3.6	55	47	9	8¾	8⅞	
22⅞	19	AdaEx	3.30e	16.		283	21½	20½	20⅝	-⅞
19½	10	AdmMl s	.24	2.1	9	116	12⅛	11¼	11¼	-1¼
35	13¼	AdvSys			21	936	33	31⅞	32	-1⅞
24⅞	13⅞	AMD				8013	19⅛	17½	18	-1
56¾	47	AMD pf	3	6.3		482	49¾	47½	47½	-2½
11⅞	5¼	Adobe				488	8¾	8¼	8½	-⅛
20½	14¾	Adob pf	1.84	9.7		24	19	18⅞	18⅞	-⅜
21⅞	17	Adob pf	2.40	12.		23	20½	20¼	20¼	
15	9⅞	Advest	.12	1.2	8	436	10⅝	9⅞	10	-½
68¼	53	AetnLf	2.76	4.7	8	14617	59⅝	58½	59	-⅞
83½	30⅛	AflPb s	.32	.5	18	1280	62⅞	58	59	-3½
26⅞	18⅝	Ahmans	.88	4.5	7	8232	19¾	19¼	19¼	-¼
5⅝	2⅞	Aileen				440	3⅞	3	3⅞	
52⅞	32⅝	AirPrd	1	2.2	20	2044	48⅛	44½	44⅞	-3⅛
36	20	AirbFrt	.60	2.5	10	727	24½	23	23⅝	-1
16½	7¾	Airgas n			21	334	14⅝	13	13¼	-1⅝
20	16¼	Airlease	2.11e	13.		51	16½	16⅜	16⅜	-¼

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NYSE COMPOSITE CLOSING PRICES

Continued from Page 46

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
20⅝	13	Zero	.36	2.1	17	233	18	16⅞	17⅛	−1
30¾	18⅝	Zurnin s	.68	3.3	14	467	23⅞	20½	20¾	−3¼
10⅝	8¾	Zweig	.65e	6.6		1456	10	9¾	9⅞	−⅛

Sales figures are unofficial. Yearly highs and lows reflect the previous 52 weeks plus the current week, but not the latest trading day. Where a split or stock dividend amounting to 25 per cent or more has been paid, the year's high-low range and dividend are shown for the new stock only. Unless otherwise noted, rates of dividends are annual disbursements based on the latest declaration.

a-dividend also extra(s). b-annual rate of dividend plus stock dividend. c-liquidating dividend. cld-called. d-new yearly low. e-dividend declared or paid in preceding 12 months. g-dividend in Canadian funds, subject to 15% non-residence tax. i-dividend declared after split-up or stock dividend. j-dividend paid this year, omitted, deferred, or no action taken at latest dividend meeting. k-dividend declared or paid this year, an accumulative issue with dividends in arrears. n-new issue in the past 52 weeks. The high-low range begins with the start of trading. nd-next day delivery. P/E-price-earnings ratio. r-dividend declared or paid in preceding 12 months, plus stock dividend. s-stock split. Dividends begin with date of split. sls – sales. t-dividend paid in stock in preceding 12 months, estimated cash value on ex-dividend or ex-distribution date. u-new yearly high. v-trading halted. vi-in bankruptcy or receivership or being reorganised under the Bankruptcy Act, or securities assumed by such companies. wd-distributed. wi-when issued. ww-with warrants. x-ex-dividend or ex-rights. xdis-ex-distribution. xw-without warrants. y-ex-dividend and sales in full. yld-yield. z-sales in full.

AMEX COMPOSITE CLOSING PRICES

Closing prices, October 16

OVER-THE-COUNTER

Nasdaq national market, closing prices, October 16

Continued on Page 45

CURRENCIES, MONEY AND CAPITAL MARKETS

FOREIGN EXCHANGES

Lack of trade improvement puts pressure on dollar

STORM CLOUDS were seen hovering over US financial markets after Wednesday's trade figures for August, and on Friday the storm truely hit London, as gale force winds brought trading to a virtual halt.

The US trade deficit of $15.68bn was particularly disappointing. If the dollar was to stand any chance of improvement the deficit needed to be considerably lower than the record $16.47bn in July.

After a reduction in the trade surpluses of Japan and West Germany in August there had been some optimism the US deficit might be as low $13bn, but this was fading fast even before Wednesday's announcement.

A figure of around $14.5bn was generally looked for, and with the latest Japanese trade figures fresh in dealers minds the resulting loss of confidence in the dollar was inevitable.

Monday's publication of the Japanese trade figures for September suggested the trend is again moving against the US, and did nothing to support the assertion of Mr Alan Greenspan, chairman of the Federal Reserve Board, that an extraordinary shift is underway in the imbalance in trade.

After falling to $5.15bn in August the Japanese trade surplus widened sharply to $7.43bn in September, while the surplus with the US increased to $4.9bn from $3.7bn.

Morgan Grenfell suggests that seasonal improvement in the US deficit should occur in September, partly offsetting the worsening of the bilateral balance with Japan, but pointed out that forecasters have under predicted the US deficit for four consecutive months.

This may account for Morgan Grenfell's forecast for the September UK trade figures. This is for a trade deficit of £1.1bn, and a current account shortfall of £500m, and is more pessimistic than the general level of forecasts.

The figures will be published on Friday, and general expectations seem to be for a trade deficit of about £900m and a current account deficit of around £300m. This is in line with County NatWest's forecast. Stockbrokers, Phillips and Drew are looking for figures of £1bn and £400m respeectively.

Kleinwort Grieveson Securities and Greenwell Montagu Research have both forecast a trade deficit of £800m and a current account shortfall of £200m.

Nomura Research Institutue in London expects deficits of £750m and £150m respectively. One of the most important US statistics next week is likely to be Gross National Product for the third quarter, on Friday. There is a general view that the growth rate will be 2.6 per cent, compared with 2.5 per cent in the previous quarter and that the GNP deflator, a measure of US inflation, will be up an unchanged 3.8 per cent.

Morgan Grenfell expects stronger GNP growth of 3 per cent, but Nomura is looking for only 2.3 per cent. Nomura also expects the price deflator to rise only 3.3 per cent.

Another important figure on Friday will be US consumer prices. After a large rise of 0.5 per cent in August economists are forecasting a smaller increase in September of 0.3 per cent to 0.4 per cent, but a rise in the year-on-year inflation rate to 4.4 per cent from 4.3 per cent As the dollar is likely to come under further pressure from the bad US trade figures, and fears increase about rising world money supply growth, the market will be looking nervously for any indication of higheer inflation.

£ IN NEW YORK

Oct. 16	Close	Previous Close
£ Spot	1.6660-1.6670	1.6620-1.6630
1 month	0.25-0.24pm	0.26-0.24pm
3 months	0.43-0.40pm	0.44-0.42pm
12 months	1.43-1.33pm	1.40-1.33pm

Forward premiums and discounts apply to the U.S. dollar.

STERLING INDEX

	Oct. 16	Previous
8.30 am	—	73.5
9.00 am	—	73.5
10.00 am	—	73.5
11.00 am	73.5	73.4
Noon	73.5	73.5
1.00 pm	73.5	73.4
2.00 pm	73.6	73.5
3.00 pm	73.5	73.5
4.00 pm	73.6	73.5

CURRENCY RATES

Oct. 16	Bank rate %	Special* Drawing Rights	European Currency Unit
Sterling	—	0.780247	0.692616
U.S. Dollar	6	1.29638	1.15251
Canadian $	8.75	•	1.49539
Austrian Sch.	4	16.4446	14.6173
Belgian Franc	7¼	48.6531	43.2250
Danish Krone	7	8.97419	7.96559
Deutsche Mark	3	2.33672	2.07637
Neth. Guilder	4½	2.62711	2.33591
French Franc	9½	7.79513	6.93294
Italian Lira	12	N/A	1498.84
Japanese Yen	2½	184.540	164.233
Norway Krone	8	8.56129	7.60831
Spanish Peseta	—	152.436	135.501
Swedish Krona	7½	8.21775	7.31212
Swiss Franc	3.5	1.93744	1.72013
Greek Drach.	20½	179.827	159.934
Irish Punt	—	N/A	0.774070

* CS SDR rates for Oct. 15; 1.68898

CURRENCY MOVEMENTS

Oct. 16	Bank of England Index	Morgan Guaranty* Changes %
Sterling	73.6	−19.9
U.S. Dollar	100.2	−7.0
Canadian Dollar	79.4	−8.6
Austrian Schilling	137.6	+10.0
Belgian Franc	99.1	−5.0
Danish Krone	90.5	+1.1
Deutsche Mark	146.9	+21.5
Swiss Franc	172.8	+22.6
Guilder	135.2	+14.4
French Franc	71.5	−13.1
Lira	47.3	−18.1
Yen	222.0	+65.6

All Morgan Guaranty changes % Are for Oct. 14

OTHER CURRENCIES

Oct. 16	£	$
Argentina	N/A	N/A
Australia	2.3035-2.3065	1.3855-1.3870
Brazil	N/A	N/A
Finland	7.2000-7.2170	4.3525-4.3545
Greece	N/A	N/A
Hong Kong	12.9425-12.9635	7.8005-7.8025
Iran	118.10*	71.00*
Korea(Sth)	1331.95-1344.05	801.50-808.10
Kuwait	0.46425-0.46565	N/A
Luxembourg	62.35-62.45	37.45-37.55
Malaysia	4.1875-4.2005	2.5255-2.5265
Mexico	N/A	N/A
N. Zealand	2.5560-2.5635	1.5375-1.5408
Saudi Ar.	6.2180-6.2320	3.7500-3.7510
Singapore	3.4680-3.4775	2.0910-2.0920
S. Af. (Cm)	3.3820-3.4005	2.0470-2.0515
S. Af. (Fn)	N/A	N/A
Taiwan	49.70-49.95	29.95-30.05
U.A.E.	6.0885-6.1025	3.6725-3.6735

*Selling rate.

FORWARD RATES AGAINST STERLING

	Spot	1 mth	3 mths	6 mths	12 mths
US Dollar	1.6635	—	—	—	—
D-mark	2.9950	—	—	—	—
French Fr.	10.0050	—	—	—	—
Swiss Fr.	2.4850	—	—	—	—
Yen	237.50	—	—	—	—

EMS EUROPEAN CURRENCY UNIT RATES

	Ecu central rates	Currency amounts against Ecu Oct. 16	% change from central rate	% change adjusted for divergence	Divergence limit %
Belgian Franc	42.4582	43.2250	+1.81	+1.04	±1.5344
Danish Krone	7.85212	7.96559	+1.45	+0.68	±1.6404
German D-Mark	2.05853	2.07637	+0.87	+0.10	±1.0981
French Franc	6.90403	6.93294	+0.42	−0.35	±1.3674
Dutch Guilder	2.31943	2.33591	+0.71	−0.06	±1.5012
Irish Punt	0.768411	0.774070	+0.82	+0.05	±1.6684
Italian Lira	1,483.58	1498.84	+1.03	+0.71	±4.0752

Changes are for Ecu, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

POUND SPOT—FORWARD AGAINST THE POUND

Oct. 16	Day's spread	Close	One month	p.a.	Three months	% p.a.
US	1.6600–1.6660	1.6630–1.6640	N/A	N/A	N/A	N/A
Canada	N/A	2.1585-2.1595	"	"	"	"
Netherlands	N/A	3.36¾-3.37¾	"	"	"	"
Belgium	62.35–62.52	62.35–62.45	"	"	"	"
Denmark	N/A	11.48½-11.49½	"	"	"	"
Ireland	N/A	1.1175-1.1185	"	"	"	"
W. Germany	2.99–3.00½	2.99–3.00	"	"	"	"
Portugal	N/A	N/A	"	"	"	"
Spain	N/A	N/A	"	"	"	"
Italy	N/A	2162-2163	"	"	"	"
Norway	N/A	10.97¾–10.98	"	"	"	"
France	9.98¾–10.01¼	10.00-10.01	"	"	"	"
Sweden	N/A	10.55-10.56	"	"	"	"
Japan	236½–238	237-238	"	"	"	"
Austria	N/A	N/A	"	"	"	"
Switzerland	2.47¼–2.49	2.48-2.49	"	"	"	"

Belgian rate is for convertible francs. Financial franc 62.65-62.75. Six-month forward dollar N/A. 12-month N/A.

DOLLAR SPOT—FORWARD AGAINST THE DOLLAR

Oct. 16	Day's spread	Close	One month	% p.a.	Three months	% p.a.
UK†	N/A	1.6630-1.6640	N/A	N/A	N/A	N/A
Ireland†	N/A	1.4885-1.4895	0.09-0.03c pm	0.48	0.12-0.02pm	0.19
Canada	1.2970-1.3050	1.2975-1.2985	N/A	N/A	N/A	N/A
Netherlands	N/A	2.0265-2.0275	N/A	N/A	N/A	N/A
Belgium	N/A	37.45-37.55	N/A	N/A	N/A	N/A
Denmark	N/A	6.90½-6.91	N/A	N/A	N/A	N/A
W. Germany	N/A	1.8005-1.8015	0.62-0.61pf pm	4.02	1.83-1.81pm	3.97
Portugal	142-142½	142-142¼	N/A	N/A	N/A	N/A
Spain	N/A	117.40-117.50	N/A	N/A	N/A	N/A
Italy	N/A	1299¾-1300¼	N/A	N/A	N/A	N/A
Norway	N/A	6.60-6.60½	N/A	N/A	N/A	N/A
France	N/A	6.01¼-6.01¾	0.06-0.01cpm	0.07	0.20-0.10 pm	0.10
Sweden	N/A	6.34½-6.34¾	N/A	N/A	N/A	N/A
Japan	N/A	142.70-142.80	0.49-0.48y pm	4.08	1.51-1.49 pm	4.21
Austria	N/A	12.68½-12.69	N/A	N/A	N/A	N/A
Switzerland	N/A	1.4930-14940	N/A	N/A	N/A	N/A

† UK and Ireland are quoted in US currency. Forward premiums and discounts apply to the US dollar and not to the individual currency. Belgian rate is for convertible francs. Financial franc —37.65-37.75

EURO-CURRENCY INTEREST RATES

Oct. 16	Short term	7 Days notice	One Month	Three Months	Six Months	One Year
Sterling	9¾-9½	9¾-9⅝	9 13/16-9 11/16	10⅜-10¼	10½-10⅜	10¾-10⅝
U.S. Dollar	7¾-7⅝	7⅞-7¾	8 5/16-8 3/16	9¼-9⅛	9⅜-9¼	9 11/16-9 9/16
Can. Dollar	N/A	N/A	N/A	N/A	N/A	N/A
D. Guilder	N/A	N/A	N/A	N/A	N/A	N/A
Sw. Franc	N/A	N/A	N/A	N/A	N/A	N/A
Deutschmark	N/A	N/A	N/A	N/A	N/A	N/A
Fr. Franc	N/A	N/A	N/A	N/A	N/A	N/A
Italian Lire	11-10	10⅞-9⅞	11⅛-9⅞	12⅞-12⅛	13⅜-12⅛	13⅛-12⅛
B. Fr. (Fin.)	N/A	N/A	N/A	N/A	N/A	N/A
B. Fr. (Con.)	N/A	N/A	N/A	N/A	N/A	N/A
Yen	N/A	N/A	N/A	N/A	N/A	N/A
D. Krone	N/A	N/A	N/A	N/A	N/A	N/A
Asian $Sing	7¼-7⅛	7⅞-7¾	8⅛-8	9⅛-9⅛	9⅜-9¼	9⅝-9⅜

Long-term Eurodollars: Two years 10¼-10 per cent; three years 10⅜-10⅛ per cent; four years 10⅝-10⅜ per cent; five years 10¾-10½ per cent nominal. Short-term rates are call for US Dollars and Japanese Yen; others, two days' notice.

EXCHANGE CROSS RATES

Oct. 16	£	$	DM	Yen	F Fr.	S Fr.	H Fl.	Lira	C $	B Fr.
£	1.	1.664	2.995	237.5	10.01	2.405	3.373	2163.	2.159	62.48
$	0.601	1.	1.8010	142.75	6.015	1.494	2.027	1300.	1.290	37.50
DM	0.334	0.555	1.	79.30	3.341	0.830	1.126	722.0	0.721	20.83
YEN	4.211	7.004	12.61	1000.	42.13	10.46	14.28	9105.	9.091	262.7
F Fr.	1.000	1.663	2.994	237.4	10.00	2.404	3.371	2161.	2.150	62.37
S Fr.	0.402	0.669	1.205	95.57	4.026	1.	1.357	878.2	0.069	25.11
H Fl.	0.297	0.493	0.880	70.42	2.967	0.797	1.	641.2	0.640	18.58
Lira	0.462	0.769	1.305	109.0	4.627	1.149	1.568	1000.	0.998	28.86
C $	0.463	0.778	1.307	110.0	4.634	1.151	1.562	1002.	1.	28.90
B Fr.	1.683	2.666	4.088	388.6	16.83	3.902	5.485	3466.	3.468	100.

Yen per 1,000: French Fr per 10: Lira per 1,000: Belgian Fr per 100.

LIFFE LONG GILT FUTURES OPTIONS

Strike Price	Calls—Last Dec	Calls—Last March	Puts—Last Dec	Puts—Last March
104	9.09	9.37	0.01	0.19
106	7.11	7.53	0.03	0.35
108	5.18	6.14	0.10	0.60
110	3.35	4.51	0.27	1.33
112	2.06	3.33	0.62	2.15
114	1.04	2.32	1.60	3.14
116	0.29	1.46	3.21	4.28
118	0.10	1.08	5.02	5.54

Estimated volume total, Calls 554 Puts 685
Prev. day's open int: Calls 30,357 Puts 24,704

LIFFE US TREASURY BOND FUTURES OPTIONS

Strike Price	Calls—Last Dec	Calls—Last March	Puts—Last Dec	Puts—Last March
76	3.30	3.55	0.60	2.05
78	2.00	2.52	1.30	3.02
80	1.00	1.62	2.30	4.12
82	0.30	1.22	3.60	5.36
84	0.12	0.56	5.42	7.06
86	0.04	0.36	7.34	8.50
88	0.01	0.22	9.31	10.36
90	0.00	0.13	11.30	12.27

Estimated volume total, Calls 64 Puts 67
Previous day's open int: Calls 1,681 Puts 1,287

LIFFE FT-SE 100 INDEX FUTURES OPTIONS

Strike Price	Calls—Last Oct.	Calls—Last Nov.	Puts—Last Oct.	Puts—Last Nov.
22750	4.86	7.61	0.86	3.61
23000	3.17	6.19	1.67	4.69
23250	1.89	4.95	2.89	5.95
23500	1.02	3.89	4.52	7.39
23750	0.49	3.01	6.49	9.01
24000	0.21	2.28	8.71	10.78
24250	0.08	1.70	11.08	12.70
24500	0.03	1.24	13.53	14.74

Estimated volume total, Calls 0 Puts 0
Previous day's open int: Calls 178 Puts 184

LIFFE £/$ OPTIONS
£25,000 (cents per £1)

Strike Price	Calls—Last Oct.	Nov.	Dec.	Mar.	Puts—Last Oct.	Nov.	Dec.	Mar.
1.45	21.20	21.20	21.20	21.20	0.00	0.00	0.00	0.02
1.50	16.20	16.20	16.20	16.20	0.00	0.00	0.00	0.12
1.55	11.20	11.20	11.20	11.20	0.00	0.00	0.03	0.49
1.60	6.20	6.20	6.20	6.95	0.00	0.07	0.34	1.45
1.65	1.20	2.00	2.52	3.85	0.00	1.00	1.72	3.35
1.70	0.00	0.26	0.66	1.84	3.80	4.26	4.86	6.34
1.75	0.00	0.01	0.10	0.74	8.80	9.01	9.03	10.24

Estimated volume total, Calls 5 Puts 5
Previous day's open int. Calls 282 Puts 1,319

LONDON SE £/$ OPTIONS
£12,500 (cents per £1)

Strike Price	Calls—Last Oct.	Nov.	Dec.	Mar.	Puts—Last Oct.	Nov.	Dec.	Mar.
1.45	—	—	12.90	—	—	—	2.70	—
1.50	14.60	14.60	14.60	14.60	0.30	0.30	0.30	0.40
1.55	9.60	9.60	9.60	9.65	0.30	0.30	0.35	0.95
1.60	4.60	4.60	4.80	5.70	0.30	0.50	0.90	2.15
1.65	0.75	1.75	1.80	3.00	1.00	2.15	1.80	4.35
1.70	0.30	0.40	0.60	1.45	5.80	6.15	6.50	7.60
1.75	—	—	1.20	1.80	—	—	16.50	17.50

Previous day's open int: Calls 1071 Puts 129
Estimated Volume: 0

PHILADELPHIA SE £/$ OPTIONS
£12,500 (cents per £1)

Strike Price	Calls Oct.	Nov.	Dec.	Mar.	Puts Oct.	Nov.	Dec.	Mar.
1.575	8.10	8.10	8.10	8.30	—	0.05	0.05	0.80
1.600	5.60	5.60	5.75	6.45	—	0.05	0.30	1.40
1.625	3.10	3.35	—	4.75	—	—	—	—
1.650	1.80	1.70	2.15	3.35	0.05	1.15	1.80	3.20
1.675	0.05	0.70	1.25	2.25	1.65	2.50	3.15	4.55
1.700	—	0.25	0.60	1.65	4.00	4.45	4.95	6.15
1.725	—	0.05	0.25	1.05	6.50	6.75	7.05	8.00

Previous day's open int: Calls 98698 Puts 114862
Previous day's volume: Calls 5455Puts 2412

LIFFE-EURODOLLAR OPTIONS
$1m points of 100%

Strike Price	Calls—Last Dec.	Mar.	Jun.	Sept.	Puts—Last Dec.	Mar.	Jun.	Sept.
89.75	0.92	0.95	0.95	0.94	0.09	0.25	0.45	0.63
90.00	0.72	0.78	0.80	0.79	0.14	0.33	0.55	0.73
90.25	0.53	0.62	0.66	0.66	0.20	0.42	0.66	0.85
90.50	0.36	0.49	0.53	0.54	0.28	0.54	0.78	0.98
90.75	0.24	0.37	0.42	0.44	0.41	0.67	0.92	1.13
91.00	0.15	0.27	0.33	0.35	0.57	0.82	1.08	1.29
91.25	0.09	0.19	0.25	0.27	0.76	0.99	1.25	1.46
91.50	0.05	0.13	0.18	0.21	0.97	1.18	1.43	1.65

Previous day's open int: Calls 1,965 Puts 2,070
Estimated Vol: Calls 30 Puts 10

LONDON

20-YEAR 12% NOTIONAL GILT
£50,000 32nds of 100%

	Close	High	Low	Prev.
Dec.	113-04	113-10	112-18	112-24
March	113-09	—	—	112-29

Estimated volume 3286 (54,004)
Previous day's open int. 29,291 (28,840)

6% NOTIONAL LONG TERM JAPANESE GOVT BOND Y100m 100ths of 100%

	Close	High	Low	Prev.
Dec.	97.15	97.15	96.95	96.10
March	95.65	—	—	95.60

Estimated Volume 24 (416)
Previous day's open int. 741 (811)

THREE-MONTH STERLING
£500,000 points of 100%

	Close	High	Low	Prev.
Dec.	89.88	89.59	89.49	89.53
March	89.56	89.58	89.50	89.52
June	89.46	89.59	89.46	89.54
Sept.	89.44	89.53	89.44	89.54
Dec.	—	—	—	89.51

Estimated Volume 1,179 (12,106)
Previous day's open int. 16,994 (17,386)

FT-SE 100 INDEX
£25 per full index point

	Close	High	Low	Prev.
Dec.	231.50	232.30	230.30	233.40
Mar.	236.00	—	—	237.90

Estimated volume 271 (3,525)
Previous day's open int. 7,851 (7,734)

THREE-MONTH EURODOLLAR
$1m points of 100%

	Close	High	Low	Prev.
Dec.	90.58	90.62	90.39	90.46
March	90.45	90.48	90.27	90.30
June	90.25	90.16	90.15	90.09
Sept.	90.06	—	—	89.89
Dec.	89.91	—	—	89.71
Mar.	89.78	—	—	89.57
June	89.67	—	—	89.44

Estimated volume 1,329 (19,231)
Previous day's open int. 32,751 (32,354)

U.S. TREASURY BONDS 8%
$100,000 32nds of 100%

	Close	High	Low	Prev.
Dec.	78.17	78.28	77.25	73.30
Mar.	77.25	—	—	77.06

Estimated Volume 2,467 (12,538)
Previous day's open int. 6,703 (6,225)

CURRENCY FUTURES

POUND—$ (FOREIGN EXCHANGE)

Spot	1-mth.	3-mth.	6-mth.	12-mth.
1.6635	N/A	N/A	N/A	N/A

IMM—STERLING $s per £

	Close	High	Low	Prev
Dec.	1.6620	1.6630	1.6575	1.6535
Mar.	1.6595	1.6610	1.6550	1.6510
June	1.6530	1.6590	1.6530	1.6445

LIFFE—STERLING £25,000 $ per £

	Close	High	Low	Prev
Dec.	1.6580	—	—	1.6607
Mar.	1.6550	—	—	1.6573
June	1.6520	—	—	1.6555

Estimated volume 0 (21)
Previous day's open int 346 (331)

CHICAGO

U.S. TREASURY BONDS (CBT) 8%
$100,000 32nds of 100%

	Close	High	Low	Prev.
Dec.	78-14	78-31	76-27	78-21
Mar.	77-22	78-05	76-03	77-29
June	77-01	77-16	75-18	77-08
Sept.	76-14	76-29	75-15	76-20
Dec.	75-29	76-09	74-28	76-02
Mar.	75-13	75-23	74-14	75-18
June	74-31	75-10	74-06	75-04
Sept.	74-18	74-26	74-07	74-23
Dec.	74-07	74-15	73-18	74-12
Mar.	73-28	—	—	74-01
June	73-18	—	—	73-23

U.S. TREASURY BILLS (IMM)
$1m points of 100%

	Close	High	Low	Prev.
Dec.	92.05	92.08	91.67	92.11
Mar.	91.84	91.88	91.45	91.88
Jun.	91.67	91.69	91.28	91.71
Sept.	91.54	91.54	91.15	91.59
Dec.	91.40	91.40	91.17	91.45
Mar.	91.28	—	—	91.33

SWISS FRANC (IMM)
SFr 125,000 $ per SFr

	Close	High	Low	Prev.
Dec.	0.6741	0.6788	0.6736	0.6743
Mar.	0.6815	0.6864	0.6814	0.6817
Jun.	0.6889	0.6935	0.6884	0.6887

JAPANESE YEN (IMM)
Y12.5m $ per Y100

	Close	High	Low	Prev.
Dec.	0.7054	0.7110	0.7048	0.7063
Mar.	0.7129	0.7188	0.7121	0.7134
June	0.7209	0.7270	0.7210	0.7210
Sept.	0.7280	0.7340	—	0.7273
Dec.	0.7355	—	—	0.7360

DEUTSCHE MARK (IMM)
DM125,000 $ per DM

	Close	High	Low	Prev.
Dec.	0.5569	0.5608	0.5565	0.5573
Mar.	0.5626	0.5667	0.5623	0.5628
June	0.5689	0.5720	0.5690	0.5690
Sep.	0.5751	—	—	0.5754
Dec.	0.5807	—	—	0.5802

THREE-MONTH EURODOLLAR (IMM)
$1m points of 100%

	close	High	Low	Prev.
Dec.	90.54	90.64	90.15	90.65
Mar.	90.39	90.48	89.95	90.44
June	90.19	90.25	89.79	90.21
Sept.	90.00	90.06	89.59	90.00
Dec.	89.84	89.90	89.41	89.81
Mar.	89.69	89.73	89.29	89.64
June	89.55	89.59	89.19	89.49
Sept.	89.43	89.48	89.00	89.36

STANDARD & POORS 500 INDEX
$500 times index

	Close	High	Low	Prev.
Dec.	298.25	307.60	297.95	305.00
Mar.	301.80	311.30	301.50	308.65
Jun.	305.50	314.40	305.40	312.15
Sept.	308.50	316.60	307.80	315.00

MONEY MARKETS

Fears of high bank lending

LONDON'S FINANCIAL markets took a buffeting from the weather at the end of last week. As gale force winds caused disruption to power supplies and transport systems settlements in the banking system were postponed until today.

This week the market will be hoping not to take any knocks from the economic climate.

Apart from the September trade figures, which are generally expected to show an improvement over August, dealers will also be waiting anxiously for the money supply and bank lending figures tomorrow.

These are not expected to be particularly encouraging. A survey by Money Market Services points to a rise of 0.6 per cent in September M0 growth, compared with 0.3 per cent in August. Sterling M3 growth is forecast at an unchanged 1.5 per cent and bank lending is expected to be £3bn, against £2bn in August.

Morgan Grenfell is again among the most pessimistic forecasters, looking for £3.2bn bank lending, with Nomura, Phillips and Drew and County Natwest expecting £3bn. Greenwell Montagu forecasts £2.8bn and Kleinwort Grieveson £2.5bn.

September retail sales today are expected to rise or fall between 0.5 per cent. An MMS survey suggests a rise of 0.2 per cent.

This figure, together with bank lending and the trade data will provide further evidence in the debate about overheating in the economy.

The September public sector borrowing requirement was an encouraging £35bn on Friday, against market expectations of about £750m, but lacked impact in London markets struggling to cope with the results of the weather.

UK clearing bank base lending rate 10 per cent since August 7

FT LONDON INTERBANK FIXING

(11.00 a.m. Oct. 16) 3 months U.S. dollars		6 months U.S. dollars	
bid 9¼	offer 9⅜	bid 9 9/16	offer 9 11/16

The fixing rates are the arithmetic means, rounded to the nearest one-sixteenth, of the bid and offered rates for $10m quoted by the market to five reference banks at 11.00 a.m. each working day. The banks are National Westminster Bank, Bank of Tokyo, Deutsche Bank, Banque Nationale de Paris and Morgan Guaranty Trust.

BANK OF ENGLAND TREASURY BILL TENDER

	Oct. 16	Oct. 9		Oct. 16	Oct. 9
Bills on offer	£100m	£100m	Top accepted rate of discount	9.7868%	9.8269%
Total of applications	£652	£912.25m	Average rate of discount	9.7858%	9.7708%
Total allocated	£100m	£100m	Average yield	10.03%	10.01%
Minimum accepted bid	£97.56	£97.55	Amount on offer at next tender	£100m	£100m
Allotment at minimum level	90%	25%			

MONEY RATES

NEW YORK (4pm)

Prime rate	9¼-9¾
Broker loan rate	8¾-9
Fed. funds	7⅞
Fed funds at intervention	7⅜

Treasury Bills: One month; Two month; Three month; Six month; One year; Two year

October 16	Overnight	One Month	Two Months	Three Months	Six Months	Lombard Intervention
Frankfurt	3.80-3.90	4.00-4.15	[illegible]	[illegible]	[illegible]	[illegible]
Paris	7¼-7⅞	7 13/16-8 1/16	[illegible]	[illegible]	[illegible]	[illegible]
Zurich	⅞-1¼	3¼-3½	—	4¼-4½	—	—
Amsterdam	5⅝-5¾	5½-5⅝	—	6¼-6⅜	—	—
Tokyo	3.34375	3.78125	—	3.90625	—	—
Milan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Brussels	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dublin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LONDON MONEY RATES

October 16	Overnight	7 days notice	Month	Three Months	Six Months	One Year
Interbank	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sterling CDs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Local Authority Deps.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Local Authority Bonds	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Discount Mkt Deps.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Company Deposits	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Finance House Deposits	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Treasury Bills (Buy)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bank Bills (Buy)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fine Trade Bills (Buy)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dollar CDs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SDR Linked Deposits	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ECU Linked Deposits	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Treasury Bills (sell); one-month 9½ per cent; three-months 9¼ per cent; Bank Bills (sell); one-month 9½ per cent; three months 9⅛ per cent; Treasury Bills: Average tender rate of discount 9.7858 p.c. ECGD Fixed Rate Sterling Export Finance. Make up day September 30, 1987. Agreed rates for period October 26 to November 24 1987, Scheme I: 11.42 p.c., Schemes II & III: 11.47 p.c. Reference rate for period August 29 to September 30, 1987, Scheme IV: 10.219 p.c. Local Authority and Finance Houses seven days' notice, others seven days' fixed. Finance Houses Base Rate 10½ per cent from October 1, 1987: Bank Deposit Rates for sums at seven days' notice 3-3½ per cent. Certificates of Tax Deposit (Series 6); Deposit £100,000 and over held under one month 8 per cent; one-three months 8¼ per cent; three-six months 10 per cent; six-nine months 10¼ per cent; nine-12 months 10¼ per cent; Under £100,000 8 per cent from September 15, Deposits withdrawn for cash 5 per cent.

WEEKLY CHANGE IN WORLD INTEREST RATES

	Oct. 16	change		Oct. 16	change
LONDON			NEW YORK		
Base rates	10	Unch'd	Prime rates	9¾	+¼
7 day Interbank	9¼	+⅛	Federal Funds	7⅞	Unch'd
3-month Interbank	10⅛	Unch'd	3 Mth. Treasury Bills	7.24	+0.54
Treasury Bill Tender	9.7858	+0.0150	6 Mth. Treasury Bills	7.97	+0.32
Band 1 Bills	9⅝		3 Mth. CD	8.90	+0.30
Band 2 Bills	9⅝		FRANKFURT		
Band 3 Bills	9⅝		Lombard	5.0	Unch'd
Band 4 Bills	9⅝		One mth. Interbank	4.075	+0.05
3 Mth. Treasury Bill	9⅝		Three month	5.00	+0.375
1 Mth. Bank Bills	9½		PARIS		
3 Mth. Bank Bills	9⅜		Intervention Rate	7½	Unch'd
TOKYO			One mth. Interbank	7⅞	+⅛
One month Bills	3.78125	Unch'd	Three month	8⅝	+⅛
Three month Bills	3.90625	Unch'd	MILAN		
BRUSSELS			One month	11	Unch'd
One month	6⅞	+⅛	Three month	11⅞	+⅛
Three month	7⅝	+⅛	DUBLIN		
AMSTERDAM			One month	9	Unch'd
One month	5⅝	+⅛	Three month	9½	+⅛
Three month	6⅜	+⅛			

London—band 1 bills mature in up to 14 days, band 2 bills 15 to 33 days, band 3 bills 34 to 63 days and band 4 bills 64 to 91 days. Rates quoted represent Bank of England buying or selling rates with the money market. In other centres rates are generally deposit rates in the domestic money market and their respective changes during the week.

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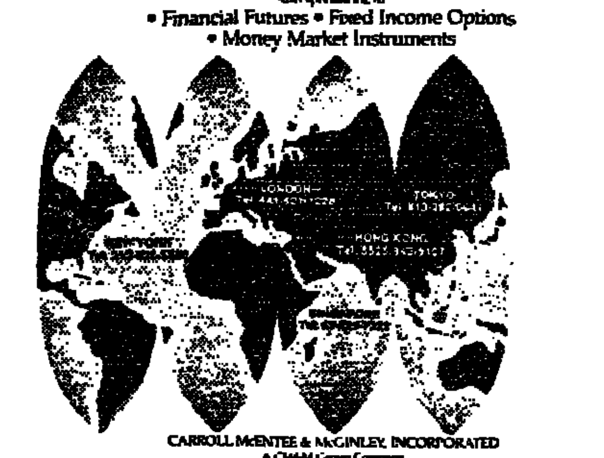

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Company Notices

GALACTIC RESOURCES LTD

5¾ CONVERTIBLE BOND ISSUE 1987-1995 OF SFr 50,000,000

Swiss security number: 666 132
Cedel number: 842 958
Euroclear number: 052 924

According to the loan agreement, GALACTIC RESOURCES LTD calls for early redemption the above mentioned bond issue as of:

October 28, 1987 at par

Payment of interest will cease at this date.

As of October 28, 1987, bonds with unmatured coupons can be presented for redemption at the counters of any paying agent mentioned on the bonds. The missing coupons will be deducted from the amount of capital.

The bonds can be converted into shares of GALACTIC RESOURCES LTD until

October 19, 1987

By order:
BANQUE INDOSUEZ
Swiss Branches

Geneva, October 1987

NOTICE OF REDEMPTION AND PREPAYMENT

European Atomic Energy Community (EURATOM)

ECU 50,000,000
12½% 1982/1990 Bonds

On October 5, 1987 Bonds for the principal amount of ECU 12,500,000 have been drawn in the presence of a Notary Public for redemption at par on November 25, 1987.

The following Bonds will be redeemable coupon due on November 25, 1988 and following attached:

4193 to 16692 incl.

In accordance with the Terms and Conditions, EURATOM will furthermore prepay at 100¼% of their principal amount, on November 25, 1987, all the Bonds remaining outstanding after the abovementioned drawing (i.e. ECU 37,500,000 principal amount).

Payment of interest and premium, if applicable, and reimbursement of principal will be made in accordance with the terms and conditions of the Bonds.

Interest will cease to accrue on the bonds as from November 25, 1987.

Luxembourg, October 19, 1987

THE FISCAL AGENT
KREDIETBANK
S.A. LUXEMBOURGEOISE

UNION de BANQUES ARABES et FRANCAISES — U.B.A.F.

as Agent and Lender, and BANCO do FOMENTO NACIONAL (Portugal) as Co-lender have signed with the Egyptian Companies GENERAL NILE BUS CO for WEST DELTA, MIDDLE DELTA, UPPER EGYPT and EAST DELTA, four Buyer's Credit Agreements in French Francs, each of which is intended to finance both French and Portuguese shares in four contracts signed between RENAULT VEHICULES INDUSTRIELS — R.V.I. and the above mentioned Egyptian Companies.

These Buyer's Credit Agreements have obtained the guarantee of the Portuguese Credit Assurance Agency "COSEC" for the Portuguese share and the guarantee of "COFACE" for the french share.

Company Announcement

MR. STEPHEN GLYNN and Mr. Jack Melchor have been appointed Directors of Direct Technology.

NOTICE OF RATE OF INTEREST
CREDIT FONCIER DE FRANCE
USD 75,000,000.00
GUARANTEED FLOATING RATE NOTES DUE 1988

In accordance with the provision of the interest determination agency agreement between Credit Foncier de France and National Bank of Abu Dhabi, Paris branch, dated as of 18th September 1981. Notice is hereby given that the rate of interest has been fixed at 9.1875 per cent per annum, and that the coupon amount payable on 18.04.88 against coupon No. 13 will be USD 236.07 and such amount has been computed on the actual number of days elapsed (185) divided by 360.

By: National Bank of Abu Dhabi
Paris Branch

Contracts and Tenders

TENDER NOTICE

BANGLADESH POWER DEVELOPMENT BOARD GREATER DHAKA POWER DISTRIBUTION PROJECT — PHASE IIA

The Crown Agents, acting on behalf of The Bangladesh Power Development Board of The Government of Bangladesh, hereby invite tenders for the undermentioned Turnkey Contract:—

Specification No. 67185—Transmission System extensions comprising 132 KV, 33KV and 11KV substation equipment, overhead lines and underground cables including civil and installation works.

Which, subject to the signature of an exchange of letters between The British and Bangladesh Governments, it is envisaged will be financed by The Overseas Administration of The British Government.

Potential bidders from U.K. contracters, suppliers and manufacturers are advised that tender documents will be available from 9 am local time on 19.10.87 for collection from the office of: Crown Agents, St. Nicholas House, Sutton, Surrey, SM1 1EL.

Each tender document, comprising three volumes, will cost £125 sterling and cheques or banker's drafts should be made payable to Ewbank Preece Limited, clearly mentioning the Greater Dhaka Power Distribution Project—Phase IIA Tender 67185 and accompanying your request to Crown Agents for the documents. This money will not be refundable.

The closing date for receipt of tenders at Crown Agents offices is 1 pm local time on 26 January 1988 and no tender received after this time will be considered. Tender documents will be opened on the same day as the tender closing date and all tenderers submitting tenders will be informed of their safe receipt.

Prospective tenderers are advised that any queries to the tender specification shall be addressed to:— Ewbank Preece Limited, Consulting Engineers, Prudential House, North Street, Brighton, Sussex BN1 1RW for the attention of the Assistant Director/ Project Manager—Dhaka Phase IIA.

The Turnkey Project work comprises the establishment at an existing site of a new 132/11KV 2 x 28/35 MVA Transformer Feeder substation at Bangabhaban: A new outdoor 132KV Double Busbar switching station at Kamalapur: A new fully switched 132/33KV, 2 x 50/75 MVA and 33/11KV, 2 x 20/28 MVA substation at Shyampur together with approximately 15KM double circuit 132KV overhead line and associated PLC protection/communication scheme: 1.5KM double circuit (XLPE or oil filled) 132 KV and single circuit 11KV underground cable and pilots, 2.4KM single circuit 33KV underground cable (XLPE), pilots and 33KV overhead line turn-in works, plus spares, testing equipment and miscellaneous items including all interconnections and interfaces testing, commissioning and putting to work to provide a fully operational, safe and working system with a maintenance period of one year.

INDUSTRIAL PROPERTY

The Financial Times is proposing to publish this Survey on

FRIDAY, NOVEMBER 20 1987

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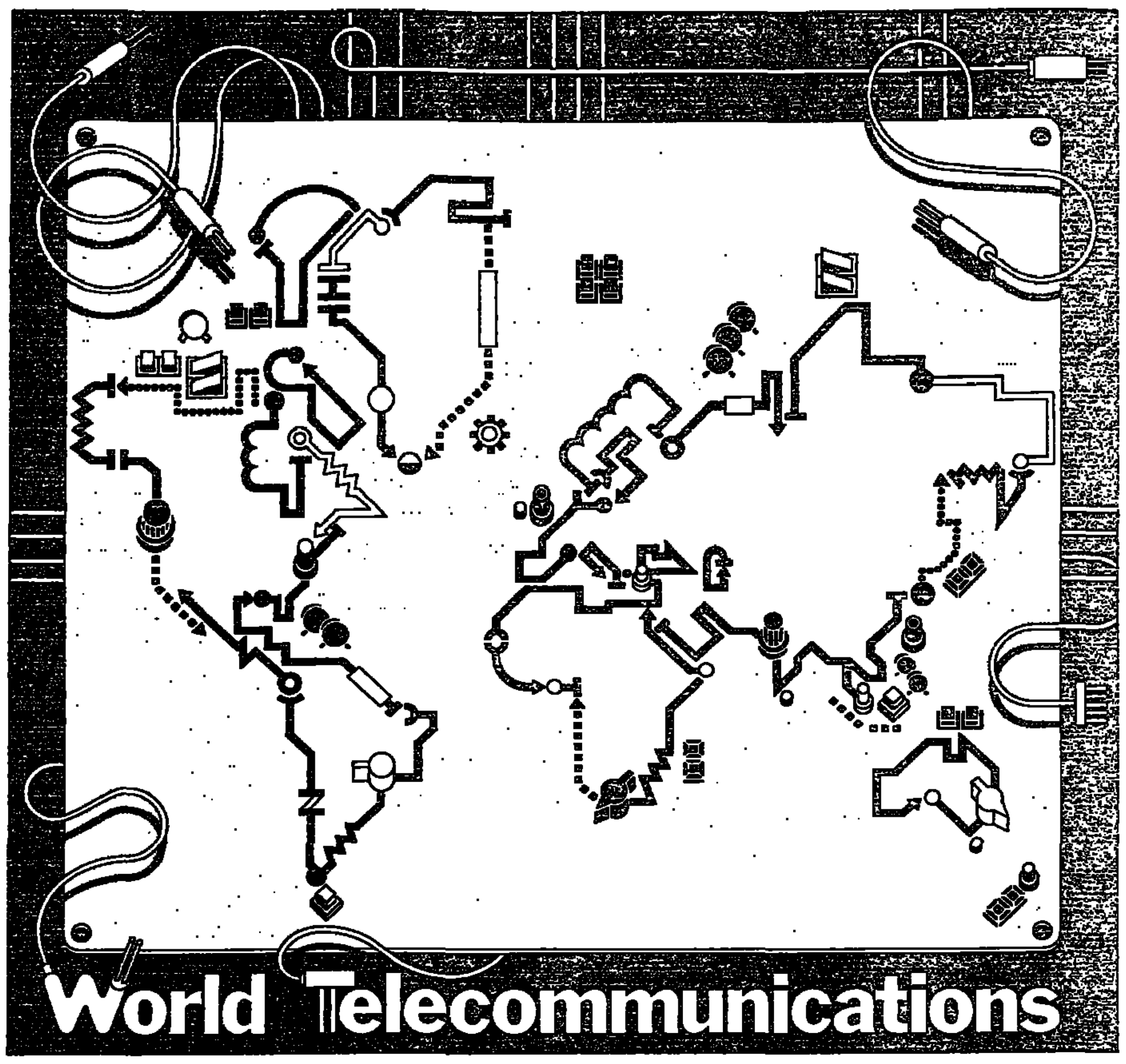
FINANCIAL TIMES
Europe's Business Newspaper

SECTION III
FINANCIAL TIMES
SURVEY

The $109bn world telecommunications industry has seen significant changes in the last 12 months as the balance of power among the major networks and manufacturers has shifted. Furthermore, competition among suppliers in many fast-growing equipment sectors is intensifying, as **Terry Dodsworth,** Industrial Editor, reports here.



CONTENTS

□ **Pictures by Trevor Humphries, Ashley Ashwood, Alan Harper; graphics by Bob Hutchison, Leighton Morris; with page one drawing by Tilly Northedge of Grundy and Northedge.**

Expanding on all fronts

THE RENAISSANCE in the telecommunications industry brought about by the application of electronics has opened up prospects which would have seemed extraordinary to people in the business only 20 years ago.

Communication networks are now at the centre of the automation process, wherever it is going on, from the office to the factory floor; the humble voice telephone line is being steadily evolved into an instrument for carrying data and pictures as well, and as components grow smaller, the prospect of mobile telephones for the mass market is only just around the corner.

This flowering of innovative technology and applications has inevitably strained the traditional structure of the industry to breaking point. Equipment suppliers have been forced to redesign their products at great - and sometimes crippling - expense. New information providers have burst upon the scene, *often clashing with the telephone network operators who would like to control these services themselves.* And users have begun to press for even more rapid change, anxious to mould a cheaper, uniform communications system out of the national fiefdoms which currently run the system.

The pressures exerted by these new conditions in the market have led to a number of significant changes in the last 12 months.

□ Alcatel, the French equipment group, pulled off a $1.3bn deal to acquire most of the European activities of ITT, the US conglomerate. With this one agreement, Alcatel propelled itself into the No 2 position in the world league of telecommunications manufacturers, second only to American Telephone and Telegraph, and with a strong position in France and West Germany.

□ Ericsson, the Swedish producer, won a three-cornered fight to take over Compagnie Generale de Constructions Te*lephoniques (CGCT), a French* equipment group threatened with extinction without the technical support of a larger partner.

□ In Italy, the country's two leading telecommunications equipment manufacturers, Italtel and Telettra, are being brought together to form Telit. Ericsson has been in serious negotiations to try and forge closer links with this new Italian group.

□ The first large-scale trade dispute in the industry broke out over the future of CGCT, with both the American and West German Governments championing their own national equipment suppliers.

□ A second trade row erupted over Japanese opposition to a bid by Cable and Wireless, the UK-based international network operator, to take a stake in a new overseas service company in Tokyo.

□ The European Commission put forward proposals for greater competition in the supply of communications equipment and data services in the Community. West Germany and France began to move in this direction, although *with plans* that remain less ambitious than the programme already enacted in the UK.

□ Cellular telephone systems in several parts of the world, particularly the US, UK and Scandinavia continued to expand rapidly; and European governments came up with a co-ordinated plan for a common new digital system in the region by 1992 - the first such co-operative venture in the industry.

□ The British and Japanese Governments adopted plans allowing virtually total freedom for the development of data services over the telephone.

The common theme underlying all of these incidents is that the balance of power which has given the industry a long period of stability is now shifting. Historically, the decisions determining the future of telecommunications were made within the big, monopolistic network operators. It was these organisations, usually government-owned, and working in a cosy relationship with equipment manufacturers, that decided when people would receive a telephone, and what sort it would be.

In recent years, however, users have been able to mount an increasingly effective challenge to the power of these institutions. As the corporate sector in general has become more dependent on telecommunications, it has begun to look for ways of reducing its expenditure on telephone systems. It has started to lobby for a more cost-related structure of tariffs, and for greater freedom in connecting the kind of equipment it wants.

For governments, there are both positives and negatives in responding to these demands. On the negative side, cost-based tariffing means higher charges for residential customers to balance the cheaper rates to business. Allowing greater freedom in equipment supplies may also mean penalising large domestic manufacturing companies with workforces built up on contracts to the telephone network.

Set against that is the positive economic effect of reducing costs for the corporate sector as a whole. This is such an intangible gain that it has not been easy to persuade governments that it is worth pursuing: but little by little, the reformers are winning.

On the equipment side, the motivation for change has been helped along by the change in the economics of production caused by the switch over to electronics. Research and development costs have escalated to such an extent that companies need access to larger markets to offset their investments. Governments have been reluctant to allow telecommunications manufacturing capacity to disappear entirely, because it is still regarded both as a strategic industry and a technology leader. But they have been forced to accept the need for rationalistion.

Change has been slower on the network operator side, partly because of the inherent difficulties of altering the structure of large bureaucracies running complex systems that cannot be easily reorganised. Nevertheless, the US, UK and Japan have all taken radical steps to inject competition into the industry by licensing new operators.

Initially, at least, these programmes have had the desired effect of bringing down prices for business customers. In addition, the greater freedom allowed to launch new services, such as cellular car telephones and special information services, has prompted a wave of innovation in these liberalising countries. They all have much more advanced systems in these fields than countries that have been more restrictive in their licensing policies - a process that is now bringing competitive pressure on the slower-acting countries and forcing them to implement reforms.

Although these changes are causing inevitable problems of adjustment, the industry as a whole can hardly claim that it is in crisis. The telecommunications sector is still growing rapidly, with network operators such as British Telecom turning in regular revenue gains of 11 per cent or more a year, and some forecasts suggesting a compound annual rate in world expenditure on telecommunications of around 10 per cent to the end of the century. In this environment, most of the big equipment companies are experiencing healthy margins, and many of them, notably Siemens in West Germany, are flush with cash.

As industry moves onto more of a global footing, telecommunications traffic is rising fast.

Continued on page 2

The liberalisation debate

Conflicting views on competition

TWO CAMPS appear to be emerging in the world of telecommunications. The camps are defined along the dimension of liberalisation - the opening up of markets to competition.

In one camp are the radicals: countries which have pushed competition into the heart of their networks. The US, Japan and the UK stand virtually alone as members of this group.

The other camp is made up of conservatives: countries which are determined to maintain the basic telephone network as a state-owned monopoly. West Germany has recently signalled that it is happy to remain within the conservative camp.

This distinction breaks down in places. The radicals still have *large swathes of activities* which are effectively monopolies. Conversely, the conservatives have had to bow to pressures for greater competition in areas which were previously closed.

Yet - at least for the moment - it does correspond to a real ideological and political divide. The more cautious telecommunications administrations have had time to observe the experience of the pioneers of liberalisation *and are not sure they want to follow suit.*

In the US, competition in the long distance market is now intense, even though American Telephone and Telegraph retains its overwhelmingly dominant position, and similar competition is being encouraged in international connections.

In the UK, Mercury Communications has established its basic network, begun to challenge British Telecom in key growth areas such as the City, signed up its first residential customers and pushed out into international switched traffic.

Last month Japan moved a long way to accept - admittedly after only the most intense diplomatic pressure - that its international telecommunications monopoly, Kokusai Denshin Denwa (KDD), should face a powerful new competitor. Leading roles are being taken in this *consortium by two foreign telecommunications* companies, Cable and Wireless of the UK and Pacific Telesis of the US. Japan has already introduced new companies to challenge NTT in its domestic market.

Wherever liberalisation has happened, it has acted as the cutting edge of the telecommunications revolution. Change has come fastest to the previously cosy and over-protected world of telecommunications in those areas where competition has been introduced.

Ex-monopolies have tended to improve their performance most in areas where they have faced the greatest challenge. In Britain, for instance, BT has been sharpest in improving its service *to big businesses and in* the supply of equipment - precisely where it is most under threat from the new competition. By contrast, residential customers, nearly all of whom are still locked into BT, have had less to cheer about.

Yet liberalisation has also had its downside. Countries which are liberalising most quickly are also tending to lose market share in equipment supply by exposing their domestic *companies to new competitors* at home without compensatory opportunities overseas. Liberalisation has forced telephone companies to bring charges into line with costs, which has often meant the politically sensitive process of increasing charges for services most used by residential customers, while holding back those for services most important to businesses.

So the aftermath of liberalisation can be distinctly uncom*fortable, as can be attested by* BT - the subject this summer of relentless attacks in the British media. These pressures have fuelled the fears of the conservatives who are hesitant about liberalisation.

They seem to have won the day in West Germany. An official commission recommended last month that the Bundespost, widely regarded as the most conservative administration in Europe, should retain its grip on network provision and the telephone service. The monopoly, to be renamed Telekom, would also be free to compete in those areas which are being opened up to competition.

The liberals on the commission pushing for greater change seem to have lost out to political fears that deregulating the Bundespost could mean postal charges going up, the telephone service becoming more business-oriented and *a loss of jobs* in the Bundespost's 500,000-strong empire.

France is poised in an interesting position, with no definitive statement as to where it will come down between the two camps. Gerard Longuet, France's dynamic minister of posts and telecommunications, has made much of his wish to open up French telecommunications. A draft Bill has been prepared which, in theory, could mean the Government ending virtually any part of the monopoly of the Direction Generale des Telecommunications, the French telecommunications authority.

However, the government appears unlikely to push the legis*lation through parliament until* after next spring's presidential elections. Nor is there much sign that the French government has any real intention of ending the DGT's monopoly of the basic phone network.

Yet even those administrations which have fought off encroachments into their core networks are facing greater competition elsewhere. Last month France opened up its market for value added services, the emerging *business* communications systems which marry voice and data traffic. This will create important opportunities for large US data companies, such as IBM, Electronic Data Systems, Geisco and Digitial Equipment Corporation, as well as for French companies such as Bull.

Many countries, including the smaller European ones such as the Netherlands, are intending to liberalise their markets for *terminal equipment. Powerful* European companies, such as Philips of the Netherlands, are now planning on the assumption that the next decade will see the complete deregulation of terminal equipment in Europe.

Moreover, commercial pressures are emerging on those reluctant to liberalise. Value added services are an example.Free in the US and the UK, they are developing reason*ably well in both countries. In* West Germany, by contrast, the high charges slapped on leased lines by the monopoly Bundespost has inhibited their growth. The European Commission is also getting involved, with the publication in June of a Green Paper proposing the complete liberalisation of the supply of value added services and terminal equipment, though the Green Paper steered clear of the core network. In the final *analysis, although telecommu*nications will remain peculiarly susceptible to swings in political fashion, liberalisation as a trend seems unstoppable - if only for technological reasons. Spiralling development costs are forcing manufacturers into international alliances to spread the burden. The inevitable consequence is a demand for much greater access to previously closed markets.

David Thomas

World telecommunications equipment market

Figures in $bn. Annual growth (1985-1990),at 5.5% a year,at current prices

Volume 1985 US $ 100 bn

			% p.a.
24 %	24	Western Europe	5 %
40 %	40	US	5 %
14 %	14	Asia	7 %
22 %	22	Other countries	7 %

Source: Siemens

US $ 1=DM 2.94

The industry's changing structure

Massive upheavals under way

IT IS at first sight paradoxical that telecommunications, an industry basking in the prospect of exuberant growth, should be in the midst of a massive structural upheaval which is forcing many of its participants to seek mutual support, withdraw from certain lines of business or even disappear from the scene altogether.

In the past few years, the industry's development worldwide has been increasingly a story of corporate alliances, joint ventures, mergers and takeovers. This flurry of deals has brought together in a variety of combinations both companies which have been long-established in the mainstream of telecommunications and new entrants from other sectors.

A number of overlapping factors is responsible for the kaleidoscopic realignment now under way. Some have to do with efforts by companies to position themselves better to take advantage of market opportunities. However, others reflect the mounting pressures faced by manufacturers which are struggling to survive in areas of intense competition.

Though telecommunications is being revolutionised by new technologies such as microelectronics and fibre optics, some parts of it are also showing distinct signs of maturity. Indeed, rapid technological change has *in some instances hastened this* process by drastically altering traditional cost structures and demand patterns.

This is particularly true in public switching. Long regarded as the industry's 'core' business, its long-term growth prospects appear now relatively unexciting, due partly to changes in network design techniques and the growth of alternative transmission media such as satellite communications.

Moreover, manufacturers' profit margins are being squeezed by fierce price competition and the mounting costs of developing and constantly up-dating digital exchanges.

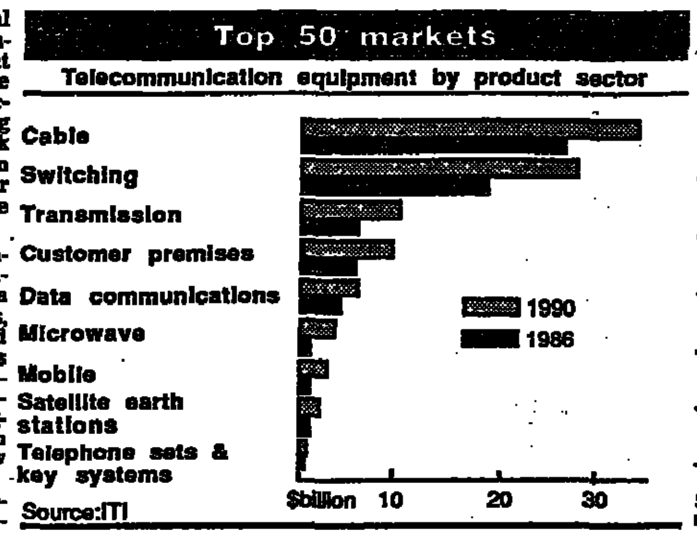
These pressures are at their most acute in Western Europe, where monopoly procurement practices have kept markets - and the supplier industry - fragmented along national lines. As a consequence, manufacturers have found it a struggle to *achieve the increasingly large* economies of scale needed to survive in a sector which is burdened with excess capacity.

The inevitable rationalisation process, though arguably long overdue, is now under way. In France, the state-owned CGE group absorbed the telecommunications activities of its national rival, Thomson, in the early 1980s.

Last year, in one of the industry's largest deals in history, *CGE also acquired a controlling* interest in the European businesses of ITT of the US, which had concluded that the cost of continuing to support its newly-developed System 12 family was too large to bear alone. Control of CGCT, another French manufacturer, recently passed to Sweden's L.M. Ericsson.

In Britain, STC has dropped out of public switching almost completely, while Philips of the *Netherlands decided to aban*don plans to develop its own digital exchange and opt instead for a joint venture with American Telephone and Telegraph.

Siemens of West Germany has formed a joint equipment venture with GTE of the US, while in Italy, a merger is planned between the country's two main equipment makers, the state-owned Italtel and Telettra, a subsidiary of Fiat.



The pace of change in the UK industry has accelerated sharply in the past few weeks, with two major deals announced. The first is an agreement between the General Electric Company and Plessey, which jointly make System X digital exchanges, to merge their telecommunications businesses in a 50/50 joint venture. The second is the sale by ITT of its residual stake in STC to Northern Telecom of Canada, which now owns 27.8 per cent of the British company.

In many takeovers and mergers, particularly cross-frontier deals, the prospect of gaining access to new markets has been an important motive for one or both partners. ITT's biggest attraction for CGE was its entrenched position as a supplier to telecommunications authorities in many European countries, while AT&T hoped that Philips' worldwide marketing network would compensate for its own lack of international distribution channels.

It is still too early to judge how far these hopes will be fulfilled. The advantages which mergers offer in terms of wider market spread must be weighed against the very considerable challenge of coping with different product ranges and management systems. Telecommunications network operators cannot be easily persuaded to switch from one brand of exchange to another unless they happen to be on the verge of a major re-equipment programme. Siemens and GTE discovered this when the latter's US customers baulked at a proposal to phase out manufacture of GTE equipment and replace it with Siemens' products.

Hence it is often necessary after a merger for companies to continue providing upgrades for several different types of exchange; a commitment which can prove extremely costly over the long term. *This is* a task confronting CGE, which has three different exchange families to support.

AT&T and Philips, for their part, have the advantage of a unfieid product range. However, they have found it difficult so far to make a big breakthrough into any of Europe's larger national markets. AT&T's 25 per cent interest in Italian office products maker Olivetti, has also produced *mixed results for the US* company, which had originally hoped that Olivetti would provide a distribution channel for its products in Europe. To date, Olivetti seems to have got the best of the deal, using AT&T to sell its personal computers in the US.

The AT&T-Olivetti link-up is also an example of another recent trend : the drive to build bridges between the telecommunications and computing industries. A few major companies, such as Siemens of West Germany and NEC of Japan, group both activities under one roof, along with semiconductor manufacturing. But others have found it necessary to devise solutions for themselves.

IBM of the US, the world's largest computer maker, moved into telecommunications in the 1970s by helping to set up Satellite Business Systems (SBS), a sophisticated network designed to beam high-capacity digital transmissions between large businesses. It also bought Rolm, a leading US manufacturer of office communications systems and in 1984 tried to establish a joint venture in data networks with British Telecom.

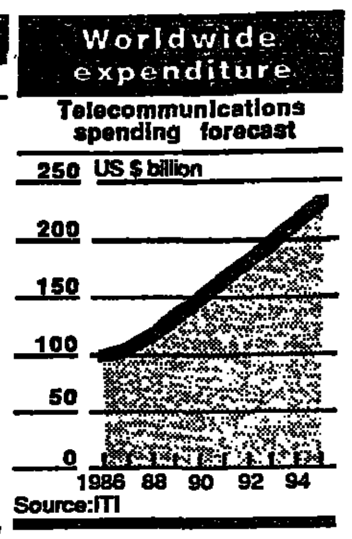
In Britain, STC sought to tackle the 'convergence' issue by purchasing ICL, the country's leading computer maker, in 1985. L.M. Ericsson formed links with Honeywell and other US computer and office systems suppliers, while Northern Telecom of Canada also purchased some small US terminal companies.

In practice, these types of alliances have proven exceptionally tricky to manage - and sometimes costly failures. The big business market at which SBS was aimed never materialised, and after several years of mounting losses IBM off-loaded the venture onto MCI, a US long-distance telephone company. The relationship with Rolm has also proved problematic, while IBM's plan to team up with BT was vetoed by the UK government.

L.M. Ericsson and Northern Telecom both appear to have turned their strategic focus back to telecommunications after failing to make much impact in the world of computing. ICL, for its part, has enjoyed strong profits growth under STC's ownership, helping to carry its parent through a serious financial *crisis* two years ago. But the original grand plans to integrate the two sides of the group's business have made only modest progress.

Indeed, ICL has sought to make its main thrust into telecommunications in data networking and value added services. These are areas in which STC, long primarily a hardware manufacturer, has little experience, and ICL's search for complementary skills has led it fur*ther afield to* partners such as Mercury Communications.

One reason for the disappointing results of many ambitious 'convergence' strategies is that they were too optimistic about the speed of integration between computers and telecommunications. Though micro-electronic technology has become a common strand in both industries, approaches to engineering and marketing remain very different and the 'cultures' of the two sectors have often proved difficult to mix. In practice, the much-heralded convergence may really be more of a collision.



Another common pitfall has been inaccurate forecasting of technological trends. The SBS saga is doubly instructive on this count. In designing the project, IBM assumed that business computing would increasingly be concentrated in a relatively few large centres which would need to exchange vast volumes of data at high speed. *In fact, precisely the reverse* has proved the case, due to the growth of distributed data processing and personal computers.

Secondly, SBS was planned at a time when high-capacity long distance digital transmission capacity was scarce and very expensive. Since then, a rush to instal competing satellite and optical fibre systems in the US has led to a capacity glut and tumbling prices.

One of the most interesting features of the structural changes in the telecommunications industry is the way in which they have inverted the order of many of the traditional relationships between its constituent parts. It used to be that customers, suppliers and competitors all knew where they stood in relation to each other.

Now, however, the pattern has been blurred by regulatory, economic and technological developments which have conspired to lower barriers to entry. Former allies now find themselves competing for the same markets, while erstwhile competitors are forging partnerships.

In the US, the regulatory wall which once segregated *AT&T and* IBM, both traditionally large customers of each other, has now been demolished, freeing them to compete directly on each others' turf. British Telecom gained the right to manufacture when it was privatised three years ago, profoundly unsettling its traditional equipment suppliers' which bitterly opposed BT's acquisition of a majority interest in Mitel, a Canadian private exchange maker.

At another level, there have been growing tensions between large corporate customers and telecommunications network operators. The former are in *some cases keen to provide for* themselves some of the transmission links and services supplied by the latter.

Indeed, the potential competitive battleground extends even further, spilling over into other industries which depend vitally on telecommunications. Deregulation of financial markets and the growing use of electronic trading systems are rapidly breaking down sectoral barriers. As a consequence, it is becoming technically possible for banks, *business information* services companies such as Reuters and a wide variety of other players to compete to offer electronically transactional services once conducted on Stock Exchange floors.

At the same time, other pressures are driving telecommunications companies which have long viewed each other as rivals to collaborate. This trend has to date been most advanced in Western Europe, where the last few years have seen the emergence of several joint projects, both officially-sponsored and initiated directly by industry.

The European Community has launched Esprit, a programme of subsidised 'pre-competitive' research involving leading European telecommunications and electronics companies, and Race, a project intended to pave the way for the development of advanced broadband networks which also includes national telecommunications administrations.

These projects are intended to fulfil several objectives. First, to spread the cost of research and development by getting companies to pool their efforts; second, to speed the development of common technical standards; and third, to encourage European companies to break down the psychological *barriers which have long* caused them to view each other with hostility and suspicion.

In parallel, some of the companies involved have established cooperative links of their own. CGE, Siemens, Italtel and Britain's Plessey are, for instance, working jointly to develop some of the technology used in digital exchange systems.

The growth of collaboration has undoubtedly contributed to a change in the industrial cli*mate in Europe, encouraging* telecommunications suppliers to find areas of common interest. It is also starting to produce some practical results in standardisation : one example is the recent agreement by European countries on common technical specifications for a new digital mobile communications network, to enter service in the 1990s.

However, it is questionable how much further collaboration can go *in solving some of the in*dustry's other, and most pressing problems. Attempts by companies such as CGE, Plessey and Italtel to evolve from co-operation at a technical level towards joint commercial strategies have so far made no real progress. The obstacles have been partly differences in management objectives and priorities and partly the perpetuation of closed national procurement policies.

Beyond that, *it is doubtful* whether collaboration alone will be enough to enable companies to resist the continuing pressures for rationalisation, which many experts believe will thin out the ranks of the international industry still further in years to come.

The record to date suggests, however, that none of the various types of corporate alliances and combinations which have been tried to date in different parts of the world *is* without *its* drawbacks, and that in some cases these may well outweigh the benefits. Given the relentless pressure on the industry to adapt to the changes crowding in on it, it seems likely that trial and error will continue to play a big part in corporate strategies in this area for a good while yet.

Guy de Jonquieres
International Business Editor

Global expansion

Continued from page 2

The big financial centres in London, New York and Tokyo have seen particularly strong growth; but data traffic in the big multinational industrial groups is increasing as well, generating demand for new capacity both on land and at sea: as a result at least two new fibre optic cables capable of carrying up to eight times as much traffic each as the previous generation of coaxial lines, are being planned to cross both oceans.

In addition, the changing pattern of demand will present a range of new challenges. First of all, the manufacturers of switching systems are faced with a steady diversion of investment towards transmission products, which will be used to some extent as substitutes for *switches. Investment* in products such as multiplexers that will spearhead this change is already beginning to build up.

Second, there is likely to be a significant switch in the pattern of world spending on telecommunciations, as developing countries overtake the investment of the current top 50 markets. According to forecasts by Telecommunications Industry Research, the top 50 countries will spend almost 53 per cent of the world's equipment budget of $243bn in 1995 - a figure which will have risen from $109bn in 1987. But by the year 2000, they will be down to only about 40 per cent of a total of$361bn.

While such glimpses into the crystal ball could be deceptive, the trend which the forecast underlines is already discernible to some extent. India's telecommunications sector is beginning to expand. Russia now has one of the biggest markets for new lines, and there are ambitious plans for developing the networks throughout the Far East.

Indeed, the World Bank alone has allocated funds of $4bn up to 1990 for loans in the telecommunications sector.

Third, the network operators may well have to find some new roles for themselves. This issue has already emerged in the UK and US, where liberalisation and the introduction of competition has raised questions about longer-term growth prospects for the utility-type businesses of the networks.

Fourth, in the area of information systems, or value added networks, there is the question of which companies manage to grasp the lead role. For the telephone utilities, data exchange services of this kind could be an *important area of expansion in* the effort to promote higher-value business. But it is also a sector which is attracting fast-footed, entrepreneurial companies and some well capitalised, technically oriented multinationals.

Indeed, some of these large American-based international groups, such as IBM and Geisco, the General Electric subsidiary, are beginning to look as though the may emerge as dominant figures in the information market, playing to their strengths of cross-border competence, and knowledge of both telecommunications and data processing.

This is an interesting footnote to the battle over equipment markets, where US groups have found it difficult to expand overseas: it looks as though American companies are on the other hand moving themselves into position to dominate the information business, one of the new service sectors which are expected to flourish over the next quarter of a century.

International trade

The tensions continue

UNTIL a year of so ago, serious trade disputes over the telecommunications sector would have seemed one of the more *unlikely events to mar the dip*lomatic calendar. But not any more. In a series of bruising international rows, telecommunications has been pushed unequivocally onto the agenda as one of the industries over which governments are prepared to take up the cudgels to defend their position.

Historically, telecommunications has raised little excitement in the trade arena because of its structure as an *industry organised on national* lines. In the developed countries, equipment suppliers were grouped around national, generally state-owned, network operators in a cosy relationship of interdependence.

Products were developed for the national network, and, if possible, sold to third world users as well. Sales of equipment between the developed countries was limited, and in some sensitive areas, such as main switches controlling the network, effectively barred.

This structure has begun to change for a number of reasons. *First,* new producers have emerged in the third world with the ability to take on Western suppliers on their own terms. Their products were initially successful in low-technology, large volume markets such as telephone handsets, where their modest manufacturing *costs gave them an important* edge in pricing. But the easy portability of high technology products has sinceallowed many of these producers to move into more sophisticated products as well.

*Second, the trend in technolo*gy towards electronics-based products has pushed up the cost of research and development while lowering the unit prices of the products being sold. The effect of this shift on the economics of production has been to force manufacters to look for a broader sales base for their products; and it has put equal pressure on protectionist countries because of the need to rationalise their own equipment-*producing companies.*

Third, the development of new, information-based services has led to greater demands on the national network operators to allow the connection of equipment to service these needs. In operational terms, large international companies, in particular, would prefer to be able to ignore national boundaries for the purposes of processing the vast amounts of data they collect.

While this objective is often thwarted by the telephone companies' insistence on supplying only their own pre-determined equipment, pressure is increasing for manufacturers to be able to buy whatever equipment they want.

Fourth, the gates to a more open trading environment have been further unlocked by the wave of liberalisation sweeping across the Western industri*alised nations. The thrust to*wards more open markets, led by the US and UK, but tentatively followed elsewhere, has allowed companies to move more easily, if not with total freedom, beyond their national boundaries.

These changes have led to a dramatic shift in the pattern of telecommunications trade. The US, in particular, has seen an extraordinary alteration in its trading balance, switching from a surplus of $136m on equipment sales in 1980 to a deficit of $1.2bn in 1985, according to US Department of Commerce figures.

The UK, the other of the two most liberalised markets in the West, has also gone through the same kind of experience, swinging from a surplus of $40m in 1980 to a deficit of $110m two years ago. The UK imbalance increased again sharply last year - to $272m - and is expected to reach just under $300m this year.

Most other European countries have managed modest increases in their trading balances during the 1980s, but the *big winners from the increasing* US propensity to import have been located in the Far East. Taiwan and Hong Kong, for example, were both in substantial deficit in 1980 - to the tune of $15m and $65m respectively - but within five years had managed to build up to surpluses of $160m and $61m.

The success of these two developing countries has been based largely on simple, low-*technology, commodity items.* Japan, on the other hand, has managed an even more dramatic improvement in its trading position - its surplus has risen from $562m in 1980 to $2bn in 1985 - on the back of a broader mix of equipment. *This* includes sophisticated private exchanges, microwave equipment and satellite earth stations.

In the last 12 months or so, a sudden spate of trade disputes has underscored the tensions caused by these shifts in imports and exports. The most celebrated of these was the struggle over the sale of CGCT, the French equipment manufacturer.

In a three-cornered fight, the US authorities argued that the French group should have been acquired by American Telephone and Telegraph, while the West German Government weighed in on behalf of Siemens, and Ericsson of Sweden eventually stole in and pulled off the deal. In the course of the contest, the issue of the US market was brought into play as well, with the American authorities threatening action against *Siemens if the Europeans con*tinued to block AT&T.

The other big battle centered on the attempt by Cable and Wireless, the UK's international telephone network operator, to acquire a stake in the Japanese market as it opened its international communications to new competitors. C and W now appears to have won this fight, gaining an entree to a foreign market for services provision *rather than equipment.*

Since these disputes were resolved, the temperature has also gone down on the diplomatic front. The US and Europe are meeting more regularly to discuss their disagreements, and the rising value of the yen has begun to feed through into reducing the huge Japanese surplus on its US trade.

Even so, the battle for markets shows no signs of alleviating, and Europe has now begun to campaign against the size of its deficit with Japan: suggestions that the European Community might consider protectionist measures surfaced recently when Mr Michel Carpentier, director *general of* telecommunications at the EC, said that the region's imports of Japanese equipment had jumped from ECU 20m three years ago to ECU 883m in 1986.

Another issue is also emerging for Western producers on the trade front: how to tackle the redirection of spending on telecommunications networks to the developing world, the Eastern bloc and China. Ac*cording to a forecast from Tele*communications Industry Research, the world equipment market will more than triple over the next 13 years to $360bn by the year 2000, but by that time the developing countries will overtake the spending of the current top 50 countries. Russia, says TIR, has already surpassed Japan as the world's second largest purchaser of telecommunications equipmewnt.

This shift in spending will undoubtedly be cushioned by the continuing strong expansion in the overall market, which would remain one of the most dynamic sectors of world industry if the forecasts are fulfilled. But, as TIR points out, the pattern of spending carries financial risks for Western nations, which are likely to be more exposed in this part of the world to country-by-country financial arrangements, and the tricky deals *associated* with very long-term supplier credits.

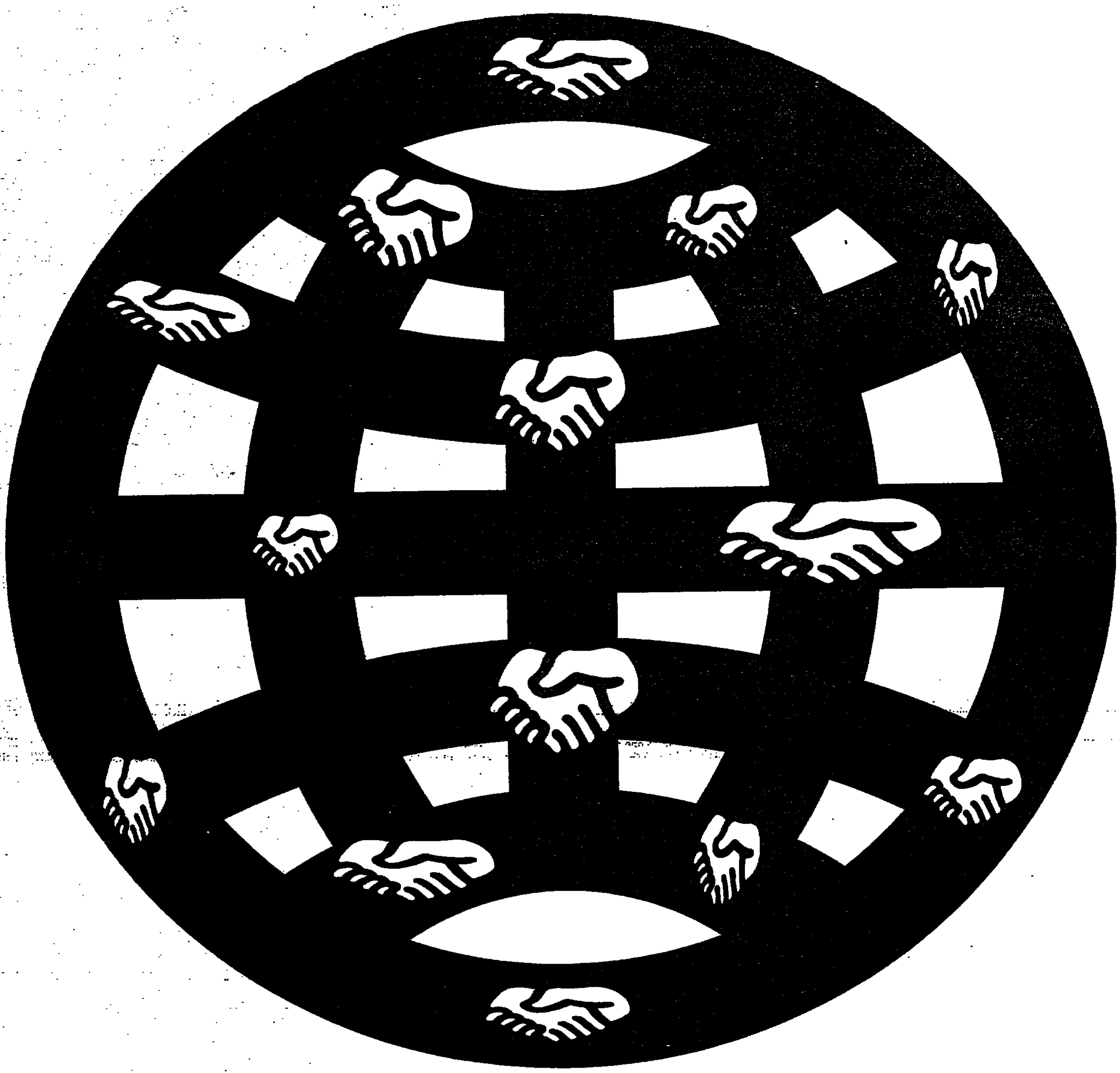
Tony Dodsworth

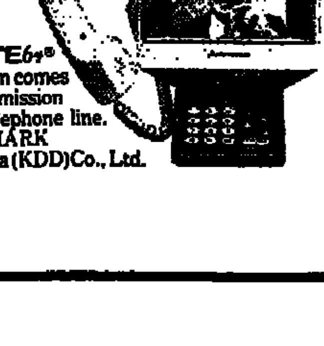
Telecoms Trade

● Imports and exports in $m in 1985 for telecommunications equipment

	Imports	Exports
Australia	296	41
Austria	55	31
Belgium	97	178
Brazil	17	22
Canada	205	597
Denmark	70	49
Finland	64	70
France	92	472
Hong Kong	256	370
India	44	1
Indonesia	65	—
Irish Republic	85	118
Israel	54	53
Italy	191	167
Japan	123	1839
Malaysia	134	4
Netherlands	136	146
Norway	101	55
Philippines	26	—
Singapore	84	38
South Africa	809	4
South Korea	182	178
Spain	36	28
Sweden	150	959
Switzerland	69	81
Taiwan	107	260
Thailand	107	—
United Kingdom	398	300
United States	3218	1781
West Germany	161	757

Source: International Telecommunications, Stockton Press.





Europe

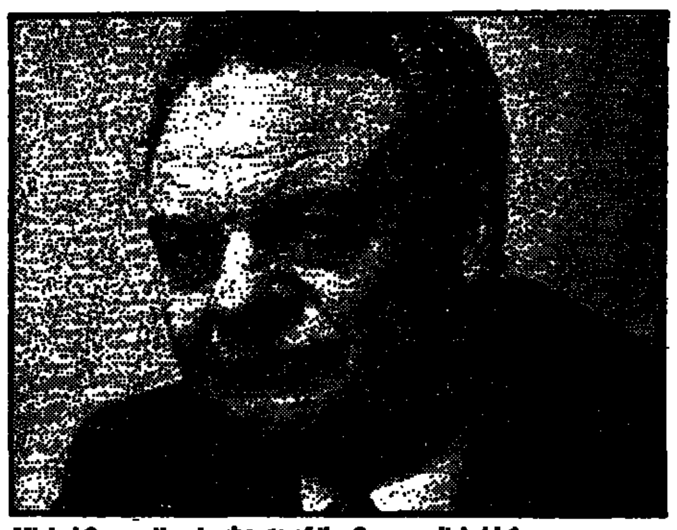
A new spirit to confound the cynics

DURING THE next month, the European Commission is due to complete a round of consultations on its telecommunications green paper, published in June, whose aim was to give a push to the process of liberalisation, stimulate new services and create a large unified home market for equipment manufacturers in the Community.

Commission officials are pleasantly surprised by the degree of support they have received for their proposals from the telecoms administrations and equipment manufacturers in Europe. Even the Bundespost, the West Germany PTT, widely regarded as the most conservative of the larger administrations, has signalled its approval.

Cynics would say that this just shows how timid the green paper really was. Although it proposed the liberalisation of the supply of value added services and of all terminal equipment, except possibly the first telephone, it steered well clear of attacking the monopoly of phone services still firmly in place in most European countries.

Indeed, the one recommendation in the green paper which has stirred up controversy during the summer months of consultation was the suggestion that small satellite receivers should be treated as terminal equipment and liberalised too. The Commission has been told firmly by some respondents that this could encourage new satellite services to bypass the telephone administrations, thereby undermining their service monopoly.


Michel Carpentier: in charge of the Community's high technology and telecommunications policies

With this main exception, Commission officials are optimistic that they can begin the long process of translating the green paper's recommendations into draft directives towards the end of this year or early next. Indeed, some of their recommendations - such as the creation of a European Telecommunications Standards Institute - are already in hand.

The best intentions of the Commission's officials may still fall foul of the notorious delays to which EC proposals are subject. But even without a prod from Euro-bureaucrats the face of European telecommunications is changing rapidly.

This is perhaps most evident in the realm of the equipment manufacturers, where the past year has seen the clinching of a number of key deals in Europe, as the Continent's equipment manufacturers huddle together to spread spiralling development costs and to gain access to wider markets in the process of liberalisation.

By far the biggest such deal was the acquisition of a controlling stake in the equipment interests of ITT of the US by Alcatel of France, in one bound creating a company with annual sales of about $12bn, second only to American Telephone and Telegraph on the world scene.

Alcatel's management has been busy this year integrating the two group's operations, though it now seems clear that Alcatel will keep at least for the time being its two public exchanges - Alcatel's E-10 switch and ITT's System 12.

The next piece of the European jigsaw fell into place in April when Ericsson of Sweden won the bitter battle for control of Compagnie Generale de Construction Telephoniques (CGCT), the French public exchange supplier which controlled about 16 per cent of the French market.

Ericsson's strong technology, flexibility and sure-footed knowledge of world markets - qualities which have helped build it into one of the giants of the world telecommunication market on the back of its small home base in Sweden - helped it win CGCT.

But so too did the French Government's political reluctance to accept either of the two early contenders for CGCT - Siemens of West Germany and a joint venture between AT&T and Philips of Netherlands. To have accepted one of these could have resulted in trade friction between France and the home country of the other.

Earlier this month, the UK industry, long regarded as one of the weaker brethren among the world-ranking suppliers, got into the restructuring act when the General Electric Company and Plessey announced a merger of all their equipment interests.

This will create a joint venture company with annual sales of more than £1.2bn, though the great majority of these will be in Britain - a testament to the UK's relative failure in world markets. A top priority for the new company will be to build up overseas sales. This might be done in alliances with other groups, since GEC and Plessey believe they will be a more attractive partner once they have sorted out their own differences.

Italy too is well on the way to rationalising its equipment manufacturing through the creation of a new company Telit, out of Italtel, its big switch manufacturer, and Telettra, the equipment manufacturer controlled by Fiat.

Once these deals are complete, the UK and Italy will have powerful - if not quite as big - companies to put alongside the giants of the European industry: Alcatel, Siemens and Ericsson. The interesting point to watch over the next year will be whether further alliances emerge between this core group.

Meanwhile, the process of liberalisation among the operators is set to continue, though at a different pace and to a different extent in each country.

At one extreme is the UK where Mercury Communications, the fledgling competitor to the privatised British Telecom, is now establishing itself as a credible alternative, at least for big business customers. At the other extreme are countries like Austria, where the authorities see no reason for fundamental change to the present structure of regulation, though they intend to operate it more flexibly.

Many governments are steering a mid-course, keeping the basic network and services in a state-controlled monopoly, but opening up equipment supply and the new value added services used by businesses to greater competition. This seems the route which West Germany and France are most likely to follow. It is also increasingly favoured by smaller countries, such as the Netherlands and Sweden, which is considering relinquishing the monopoly held by Televerket, the Swedish PTT, on the distribution of private exchanges.

But perhaps the most impressive example this year of the new spirit infusing European telecommunications comes from a area outside the traditional core telephone networks - that of cellular telecommunications. Thirteen European countries have sunk the notorious differences that bedevil attempts to forge a common European approach to high technology by agreeing to establish a second generation pan-European digital cellular network in 1991.

This project, if it comes to fruition, will create a unified European market in a major sector of telecommunications for the first time. Euro-optimists believe this will be a path-breaking precedent which will show how Europe can create a home market of a size to rival that of the US and Japan. The next year will show whether this optimism is justified.

David Thomas

West Germany

Bundespost battle-lines

NEXT YEAR promises to be a turbulent one for the main players in West Germany's telecommunications industry. The Government is committed to introducing legislation to relax the Bundespost's telecoms monopoly and the opponents of reform long ago began to sharpen their claws.

After receiving a Government Commission report recommending a cautious deregulation of the telecoms market last month, Mr Christian Schwarz-Schilling, the Posts Minister, promised that the process would begin next summer. First, the Cabinet needed to study the report, he said, then the Government's response would have to be put through Parliament.

With Mr Schwarz-Schilling's gentle prodding, the Cabinet will probably agree to try and press through the report's two main proposals:

- that the Bundespost retains its monopoly over transmission and switching but that the supply of value added services on the telephone lines and of equipment be open to free competition (with the Bundespost as a competitor).
- that the telephone service be separated from the postal service and that the huge cross-subsidy from telephone to post gradually be stopped.

Not surprisingly, the proposals have been fiercely attacked. The Bundespost is a German institution and its workforce of 550,000 people makes it Western Europe's biggest employer. The prospect of change has frightened the three postal unions.

Only 200,000 of the workforce are employed by the telecommunications service but they are responsible for more than two-thirds of the Bundespost's total revenue - DM34.5bn of DM49.6bn last year. The telecoms operations covered postal losses in 1986 with a DM2.2bn transfer and still made a DM3.3bn net profit.

Without that sort of cover, the unions fear thousands of postal jobs would be at risk and although they cannot strike by law, they promise to make the debate next year a hot one.

The Government, in pushing the reforms through, has one big advantage but faces two major hurdles. The good news is that the run of state elections that has prevented Chancellor Helmut Kohl from making any attempt to reform a crusty old economy has all but ended for a while. Baden-Wuerttemberg votes next but the Chancellor's Christian Democrats (CDU) seem certain to retain power, at least with their Federal coalition partners, the Free Democrats (FDP). That means that for the next 20 months or so, Mr Kohl has no domestic backs to cover and could, if he has the strength, press ahead even with an unpopular deregulation of telecommunications.

The less good news is that the parliamentary schedule for next year is already shaping up to be tough. First, an emotional row, into which the entire country will be drawn, is brewing over plans to reform the way West Germans pay for their health service. Medical insurance companies paid out almost DM125bn last year, with the Government taking most of the burden and present, controversial, Cabinet thinking is to force people to pay a greater proportion of their costs.

A second debate over how to finance a DM39bn tax reform will also be in full cry early next year. The Finance Ministry will probably fail, due to its inability to uproot dozens of deep-set political interests, to make the cuts in subsidies that it had hoped and some consumer taxes look almost certain to go up.

Whether Mr Kohl will find the wind to shovel a rise in health costs, a badly-sold tax reform *and* a Bundespost deregulation - with the unions warning voters that post will be more expensive - past the public in one year is a mute point.

It is also one of the Chancellor's great strengths that he seems able to judge when best to leave delicate issues alone. If the Bundespost deregulation becomes too difficult - if the unions, helped by the opposition SPD, win the public argument - then Mr Kohl is bound to find a way of dropping it at least for a while.

The opposition has already shown some of its hand. Mr Albert Stegmueller, the union representative on the Commission that drew up the liberalising recommendations, voted against all 47 of them and, in a minority report, outlined the intellectual framework that the opponents of reform are going to work from.

Telecommunications, he argued, was a natural monopoly, a "classic competition- exempt" area. Competition would eventually distort open communication because of its inability to satisfy technical compatibility criteria and was therefore a potential barrier to innovation.

He said the Commission had been impressed with deregulation in the US, UK and Japan but insisted that, as a result, private tariffs in those countries had risen, infrastructural commitments had been neglected, the quality of service had worsened and jobs in the sector had been lost. Private sector services would concentrate only on profitable areas, he said, leaving the Bundespost to cover the rest.

There seems little doubt that the unions will pounce on the difficulties that British Telecom is having bringing a quality service to non-business users as further evidence of the "dangers" of deregulation.

Thus, the arguments that the unions will take to the public will be chillingly simple - that letters will be more expensive to post, that the cost of a local call will go up (the Commission recommended that the huge tariff difference between high trunk and low local calls be erased), and that ("look at the British") call-boxes will begin to fail all over the country.

The Government's job is much harder, and if the tax reform is any guide, it is not a great marketer of ideas. Its arguments will have to be technical and it will have to concede that much of the row has been caused because business needs better communications. Nevertheless, many MPs in Mr Kohl's CDU will have great misgivings even if they understand the more technical arguments.

Mr Kohl, or perhaps Mr Schwarz-Schilling, will be depending on one of their least dependable allies for help in making the job easier. He is Mr Franz-Josef Strauss, the prickly leader of the Bavarian Christian Social Union (CSU) which is a sister party to the CDU and a member of Mr Kohl's coalition.

Given that the CDU can be sure of support for any deregulation from the third coalition partner, the FDP, Mr Strauss's attitude in Parliament could be critical. One rather dark sign is that his representative on the Commission that drew up the recommendations hardly ever turned up to a sitting and other members assumed the Bavarians were not interested in deregulation.

However, Mr Strauss will be flexible. For one thing, he is a great horse trader and the CDU may be able to offer him something. But Siemens, West Germany's biggest telecommunications group, is based in Bavaria and Mr Strauss cannot, and would not, do anything to damage it. Siemens' position is that some deregulation is in order largely because the US market has become so important to it in the last few years and the Americans constantly complain about how hard it is to sell services and equipment to the Bundespost.

For the unions, though, and the SPD, their biggest parliamentary asset remains the ignorance and lack of interest of most MPs in telecommunications. In whatever form the Commission proposals become law, they will inevitably have been watered down. It is quite possible, for instance, that instead of simply allowing private companies to compete with the Bundespost in providing equipment and services, the Government may decide to guarantee the Bundespost (or Telekom, as the new telecoms service may be called) certain market shares in various sectors.

That would at least provide a future government with another excuse to erect another commission to make, one day, another set of recommendations.

Peter Bruce
Bonn

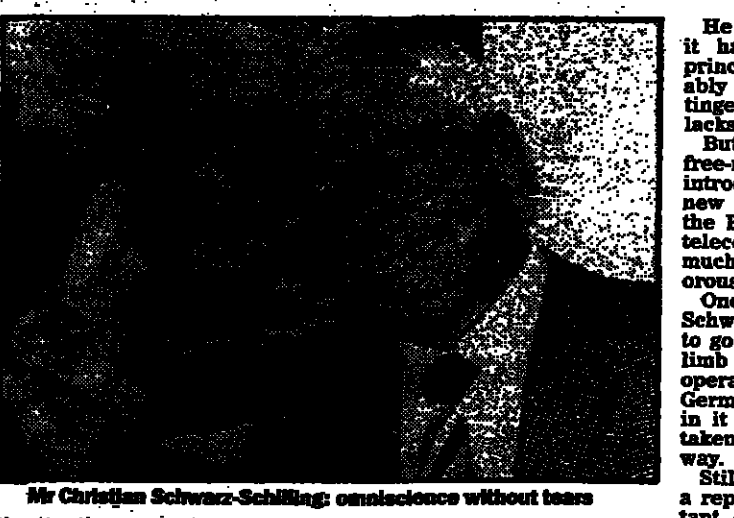
Ministerial profile: Christian Schwarz-Schilling

Media man's place in history

IF IT IS true that most people are good for just one major historical contribution, then Mr Christian Schwarz-Schilling has probably had his day.

If, on the other hand, the theory is thought to be a load of old rubbish, then the West German Posts and Telecommunications Minister, 57 next month, may wish he had. From now on, the job gets harder.

Mr Schwarz-Schilling became Minister when Chancellor Helmut Kohl took over the reins of government on October 1982 and he must be one of the most secure members of the Cabinet. His great strength is that he knows much more about the complexities of broadcasting, data transmissions and even ordinary telephone conversations than anyone else in the Bundestag.


Mr Christian Schwarz-Schilling: omniscience without tears

Until his arrival at the huge white Ministry on the banks of the Rhine, the Bundespost had been largely run by bureaucrats, with a political head there by virtue of the Constitution only. Mr Schwarz-Schilling, though, had buried himself in new media and telecoms years before he took office.

He ran the Christian Democratic (CDU) media committee from 1975 and Mr Kohl had really little option but to make him Posts Minister.

The Minister's historic contribution to date has been the introduction of a huge (around DM3bn a year for the past three years) programme to lay cable around Germany and so force a change in Laender broadcasting laws to allow the introduction of private radio and television stations.

It hasn't all been peaches and cream. He has been heavily criticised from the start for spending too much money without first finding out whether Germans even wanted satellite and cable television. His private affairs have been exposed to public attention.

A decision to use copper wire rather than fibre optics as the main cable in urban areas attracted particular attention because the Minister happens to have a large interest in a business that makes copper wire. But independent experts have come to his defence, arguing that fibre optics are correctly being used over long distances but that copper was much more economical in towns and cities.

When a West Berlin battery plant owned by the Schwarz-Schilling family began to pollute its surroundings, he came under fire from environmentalists. The curious thing though, was that no one really took the story seriously. Mr Schwarz-Schilling's association with it seemed, in fact, to lend an air of jollity to the entire affair.

A trim, grey-haired figure, he fills precisely the right gap in West German politics - when there are no serious politicians around to attack, the Posts Minister is always good for a 'scandal' either about profligate Bundespost spending or his own business affairs (his businesswoman wife Marie-Luise manages the family portfolio while he is office). Mr Schwarz-Schilling does not seem to mind much.

In truth, he is an engaging man with a wide smile but who sometimes forgets that when he half-closes his eyes at press conferences he can look quite threatening. He studied in Berlin and Munich in the 1950s and speaks Chinese and English.

He is also a Rotarian which, if it has affected his business principles in any way, has probably helped give him a liberal tinge that most of his party still lacks.

But he may have spent what free-market energy he has on introducing new media and the new task ahead. Prising loose the Bundespost's monopoly on telecommunications, will be much harder and far less glamorous.

One thing is certain, Mr Schwarz-Schilling is not going to go too far out on a political limb to satisfy foreign telecoms operators to open up the West German market. His heart is not in it and he was always more taken with broadcasting anyway.

Still, he has in his hands now a report recommending important deregulation of the telecoms market and he seems unimpressed with loud union cries that any change will threaten thousand of postal jobs. His job is to translate the report's recommendations into a political pill that first the Cabinet and then Parliament can swallow next year.

He may go down in history with two great successes. On the other hand, history may not even be watching him.

Peter Bruce

Developments in France

Catching up with the rhetoric of change

THE FRENCH telecommunications industry is in the throes of a revolution. Since the Right returned to government 18 months ago, the Chirac administration has sought to accelerate the liberalisation of the French economy through a wide-ranging programme of privatisation, the lifting of all remaining price controls, the gradual easing of foreign exchange restrictions, and financial deregulation. The deregulation of the country's telecommunications sector was also placed high on the agenda of the conservative government.

Mr Gerard Longuet, the liberal Telecommunications Minister, wasted little time to spearhead the process of deregulation. He announced, shortly after taking office, that France had to adapt its telecommunications sector to the major changes and the increasing internationalisation of the industry worldwide.

He argued that the country could not stand still and watch telecommunications being deregulated in major industrialised countries such as the US, Japan, Britain and even West Germany.

But 18 months later, despite the government's liberal rhetoric, deregulation of telecommunications in France has been a slow and gradual process. In practice, the government has shown great hesitation to take the plunge and introduce major new legislation to deregulate the industry.

Mr Longuet, however, has now just given the go-ahead for the opening up to competition of the market for value-added telecommunication network services - the so-called Vans – as well as the market for radio telephones. He has also suggested the possibility of letting private investors operate networks of pay telephone booths in major French cities.

The government's hesitation over telecommunications deregulation reflects its concern not to provoke another potentially damaging controversy in the run-up to next spring's presidential elections.

The unions and the cadres of the country's huge telecommunications authority, the Direction Generale des Telecommunications (DGT), have from the beginning restlessly agitated over the prospects and implications of deregulation. At the same time, the government was caught with related telecommunications controversies over the privatisation of CGCT, the country's troubled telecommunications equipment manufacturer in the midst of a major international bidding battle.

The CGCT affair occupied much of the administration's attention during its first 12 months in office. American Telephone and Telegraph (AT&T) was particularly anxious to gain control of France's second largest telecommunications equipment manufacturer, to gain a foothold in the French market for public telephone switches. For CGCT currently supplies about 16 per cent of the French public switch market with the lion's share being supplied by the French Alcatel group, itself a subsidiary of Compagnie Generale d'Electricite.

The search for a solution for CGCT accelerated *de facto* deregulation in the telecommunications equipment market, which in terms of private switching equipment and terminals was already more open to competition than in many other western countries.

In many respects, the conservative administration was forced to address the issue of opening up the public switch market to an outside supplier after the merger of the French state-controlled Thomson electronic and defence group's telecommunications assets with those of Alcatel in 1983 under the former socialist government.

Until the merger, the DGT's two suppliers of public switches were Alcatel and Thomson. It now had to find a second source. As CGCT, a former ITT subsidiary nationalised by the left in 1982, supplied the DGT with switches made on a Thomson licence, the government had to find another partner for CGCT to provide the necessary switch technology and know-how for the troubled group. It was thus forced to look outside for a new international partner.

The CGCT saga finally ended last spring when the government turned down AT&T in favour of a European solution, led by Ericsson of Sweden in partnership with Matra and Bouygues of France.

The CGCT affair also coincided with a landmark deal between Alcatel and ITT which further reflected the inexorable internationalisation of the French telecommunications industry. CGE, Alcatel's parent, surprised the industry last year when it announced a major joint venture with ITT in which it would gain control of a joint venture grouping Alcatel's and ITT's telecommunications businesses to form the world's second largest telecommunications group after AT&T.

With the telecommunications manufacturing industry taking such a significant lead to develop through major international alliances the world scale deemed necessary to compete in an increasingly tough and open international environment, pressure has also inevitably been building up on the government to reform and liberalise the DGT.

The government has now decided to open up the market for value-added networks in France, despite the reticence of certain French groups including the Bull state-owned computer group concerned over the eventual entry of IBM in this market. IBM has made no secret of its ambitions to penetrate the French market for Vans and has already formed a partnership for this purpose in France.

At the same time, the government has now also apparently decided to speed up the deregulation of the car-phone market. It has asked private companies to bid for a share of this emerging sector. Three French groups, including Bouygues, the Generale des Eaux and the Lyonnaise des Eaux, have put in bids as well as US West, one of the former American "Baby Bells."

The chosen company will be in charge of a programme to establish a car-phone network for between 50,000-80,000 cars by 1989.

The government has also drawn up initial draft legislation designed to change the status of the DGT to turn it into a state-controlled company like the railways or the electricity utility. As a first step towards this change of status, it has introduced, as of the beginning of November, value-added tax on telephone calls in France.

But despite these latest deregulatory moves on the part of the government, the prevailing feeling in Paris is that the Chirac administration will delay introduction of the telecommunications deregulation bill until after next year's presidential elections. In any event, the government is no longer talking about the possibility of opening up a small part of domestic telephone services to an outside operator which would become a sort of "Mercure de France" on the lines of Mercury in the UK.

Behind the apprehensions and caution of the French authorities are not only their anxieties over the political and social repercussions of deregulation but also their concern not to destabilise a telecommunications system which has turned into one of the technologically most advanced in the West and into one of the great industrial success stories of post-war France.

This is eloquently reflected by the level of digitalisation of the French telephone network as well as the lead France has taken in introducing its videotex Minitel service, plus other services like the electronic telephone directory.

The government is clearly keen not to unsettle an industry which has become one of the backbones of France's industrial structure by a hasty and little thought-out deregulation programme.

But if the country continues to show signs of hesitation over deregulation,it has clearly accepted the inevitable fact that deregulation is a process the French telecommunications industry cannot escape and will need if it is to maintain its prominent position in the world.

Paul Betts
Paris

Mr Pierre Suard, CGE chairman: active in restructuring and integrating scattered operations.

Alcatel's future

New products will be vital

A NEW giant in the world telecommunications industry has been born this year, following the landmark deal between France's Compagnie Generale d'Electricite (CGE) and ITT.

The transaction has led to the creation of a new international telecommunications group called Alcatel with annual sales of about $12bn and second only to American Telephone and Telegraph (AT&T) in the world telecommunications industry league. With the merger of CGE's and ITT's telecommunications assets in the new Alcatel company, controlled by the recently privatised French group, CGE has fulfilled its ambition to create a telecommunication group with the critical scale to compete in a tough international environment.

Moreover, the underlying idea behind the merger was to create a new entity whose international market coverage could help support the future high development costs of its products, especially in public switching. Indeed, public telecommunications account for 35 per cent of the sales of the new company which now has two digital public switch systems, Alcatel's E-10 switch and ITT's System 12 switch. For CGE the search for broader international penetration had become all the more urgent in view of the peaking of the French public switch market.

The ITT switch was one of the main question-marks raised by the merger. But CGE is confident over the future prospects of the ITT system. At the same time, CGE management led by Mr Pierre Suard, its chairman, has already been active in restructuring and integrating the various scattered operations merged in the new telecommunications venture.

One unique aspect of the new company is that it offers two digital public switch systems with the E-10, the world leader in the field, and the ITT system. The company is also widely known in the telecommunications business systems sector, as well in consumer electronics, having inherited ITT's German television operations.

The international characteristics of the new group are eloquently reflected by the geographical distribution of its sales. The European market as a whole now accounts for 87 per cent of sales and North America for 9 per cent. The rest is shared between Australia, Asia and Africa.

The challenge for CGE and the new group will clearly be to see whether the new French top management will successfully complete the integration of the various operations merged in the joint venture. Moreover, the future will also depend on the success of the company in developing new product ranges.

"The immediate future has never seemed a big problem. The test will come in three or four years", says a French telecommunications industry analyst.

Paul Betts

Ministerial profile: Gerard Longuet

Zeal for open market policies

SINCE TAKING office as the Minister of Posts and Telecommunications 18 months ago, Mr Gerard Longuet has made his mark as one of the most politically skilful young liberal ministers in the French right-wing Government.

Unknown to the French public at large, the 42-year-old Mr Longuet immediately set about launching an ambitious programme designed to deregulate gradually and reform the French telecommunications industry.

He joined the Government as a representative of a new breed of young French right-wing politicians led by Mr Francois Leotard, the Communications and Culture Minister and leader of the French Republican Party. They are fired with a crusading zeal to introduce new open market policies in France.

This new young group of ministers has been nicknamed "La Bande a Leo" or "Leo's gang". Apart from Mr Leotard, who has never hidden his ambitions to run one day for the French presidency, and Mr Longuet, the other two members of the "Bande a Leo" in the Government are Mr Alain Madelin, the Industry Minister, and Mr Jacques Douffiagues, the Transport Minister.

All four are similar in their commitment to ardent liberal policies as well as in their young look and fresh approach to French politics.

However,of the four young Republican Party ministers in the Government, Mr Longuet has perhaps had the best track record so far. Unlike Messrs Leotard, Douffiagues and Madelin, he has avoided being caught in major political controversies over Government policies or over divisions within the Right itself.

This is all the more remarkable considering the potentially explosive issue of telecommunications deregulation which has been pressing ahead during the last few months. But Mr Longuet's skill has been to keep the political rhetoric and concept of deregulation alive and on centre-stage in France while at the same time as carefully holding back the practical process of deregulation itself.

Indeed, despite Mr Longuet's initial pledges to deregulate the telecommunications sector rapidly and in sweeping fashion, little has so far been done in practice. Even Mr Longuet's proposed deregulation bill could be held back until next spring's presidential election to avoid the issue sparking off a politically dangerous pre-election row.

Moreover, Mr Longuet has also been anxious to win the consensus of all parties involved by deregulation including unions, telecommunications cadres and engineers, and telephone users. But despite the slower-than-expected application of the deregulatory process in French telecommunications, Mr Longuet has in large measure sketched out the broad outlines of the future evolution of this key sector of the French economy.

Value added networks are to be opened up to competition although measures will be taken to protect the interests of the French Bull computer group, among others, against the possible domination of IBM in this new market. Car telephones are also being opened to competition and the status and structure of the Direction Generale des Telecommunications (DGT) are being reformed.

Some people have criticised Mr Longuet for not matching his liberal rhetoric with practical measures. But many others acknowledge that the Minister has skilfully cleared the way for a gradual and smooth process of deregulation for the French telecommunications industry over the next few years.

A graduate of the elite Ecole Nationale d'Administration (ENA), the institution which has groomed all the country's top civil servants and countless leading political figures, Mr Longuet also has the good looks and charm to ensure him a promising political career, whatever the outcome of next year's presidential elections.

Paul Betts

British Telecom

On the defensive

IN THE LAST few months, British Telecom has finally hit the iceberg which has been threatening to hole it since its privatisation in a blaze of publicity and international hype three years ago.

As an unprecedented wave of criticism has swept over the company, it has been forced to trim back on its job-cutting programme; its management has been put on the defensive, and it has had to concentrate its sights much more firmly on its basic network services - a reversal, for the time being at least, from its heady dreams of becoming one of the world's leading information technology companies.

The reasons for this setback derive from the difficulties of forcing through organisational changes at a time when technology has also been forcing the pace, and when the company has been under a new microscope in the shape of the shareholding public. In this period it has had to face up to the challenges of:

●A massive investment progamme in digital technology to modernise the network. To put in the switches and the cabling for this system, BT is spending £2bn a year, one of the most substantial projects ever launched in the UK. Teething troubles with some exchanges have caused quality problems.●Exceptionally high demand in the City of London, which has gone through its own revolution since the abolition of fixed commissions a year ago. Demand for new lines has gone up by 40 per cent in the City, stretching the current capacity to its limits at a time when financial institutions have been under particular pressure to perform well themselves. This has inevitably led to inadequacies in the BT service and friction with some of its clients in the financial markets.

●The change of status to a private company has put additional pressure on the company to reorganise itself quickly into a more aggressively profits-oriented company. This means cutting costs, partly through better use of assets - the group is selling off a significant amount of surplus property - but also by reducing its work force.

Yet these reductions are having to take place at a time of continuing expansion in the network, and in conjunction with the crash investment programme in complex new equipment.

●Additional pressure to improve the group's financial and operating performance is being applied by Mercury, the second licenced network services group. Mercury is able to put particular emphasis on attacking BT's more lucrative business traffic, where again it is having to change its old habits to maintain profits.

●Tougher attitudes to labour management led earlier this year to a damaging strike by the group's engineers at a moment when the investment plan needed to be kept on track. The deterioration of quality, shortages of lines in the City, increasing breakdowns in the pay phone service, and maintenance problems can all be partly traced to this dispute.

●The group is also faced with the problem of changing its style of operation to one which is more responsive to the market. Like most public telephone services, BT has a proud engineering tradition which was ideal for developing a national service when the technology was tricky, and when it was a major achievement to tie up links in remote parts of the country.

But the telephone industry is now inexorably moving into the service era. In this environment, the group will have to put more stress on communicating effectively with the public at all levels of staff - an area in which many consumers find it woefully inadequate.

BT's recent announcement that it will not be aiming to continue its staff cuts at the earlier rate of about 5,000 a year is an indication that it has decided that its immediate target must be to improve its relations with the public.

It is making a big push on quality in general. It has also promised to improve the standards of callbox maintenance; and it is showing renewed urgency over issues such as a prompt directory enquiries service, a perennial bone of contention with user groups.

In doing this, it is reasserting its prime role as a deliverer of a basic telephone service - an admission, in effect, that it needs to get this right before pushing out into the more speculative areas of information technology.

Terry Dodsworth

Mr Iain Vallance, BT's new chairman: facing an uphill task.

Mercury Communications

Making good headway

THE PAST year has been a good one for Mercury Communications, the new rival to British Telecom.

While Mercury's parent, Cable and Wireless, has been challenging entrenched telecom monopolies around the world, Mercury has got on with the same job in Britain. Its range of activities this year show it is now beginning to assume the characteristics of a fully-fledged network:

●It began signing up residential customers to complement the business users who were its initial target.

●It has pushed into the international market, winning a crucial breakthrough in August when it clinched a deal with Italy - its first with a continental operator - for the exchange of public telecommunications traffic.

●It entered the fast growing world of mobile communications, by launching a paging operation jointly with Motorola of the US.

●It paved the way for a push into the international telex market, thanks to the resolution of a dispute with BT about telex interconnection by the Office of Telecommunications, the industry's regulatory body.

●It signed agreements with several cable television companies for the distribution of telephone traffic over their networks.

●It has asked Oftel for permission to set up its own public call boxes in direct competition with BT's much criticised service.

●It stole a march on BT by offering new services, such as itemised billing and Centrex, ahead of its bigger competitor. Moreover, thanks to BT's troubles, it has been landed with a propaganda bonus of immense proportions. BT's industrial action earlier in the year was followed by a period of almost unprecedented media onslaught on the company.

Has Mercury benefited from its rival's problems? "Yes, of course we have, but we have tried not to crow," according to Mr Gordon Owen, Mercury's punchy managing director.

Mr Owen says that the bad publicity for BT has produced an avalanche of interest in Mercury's indirectly connected services for residential and small business customers. Mercury is planning over the next year to launch a big press advertising campaign to attract more customers to these, the newest of its mainstream services.

Mr Owen makes no bones about the fact that there is a political dimension to Mercury's pursuit of the smaller customer. "It increases the number of people who receive Mercury and who are taking advantage of the Government's policy of competition. They will therefore tend to vote for the Government and that keeps the politicians happy."

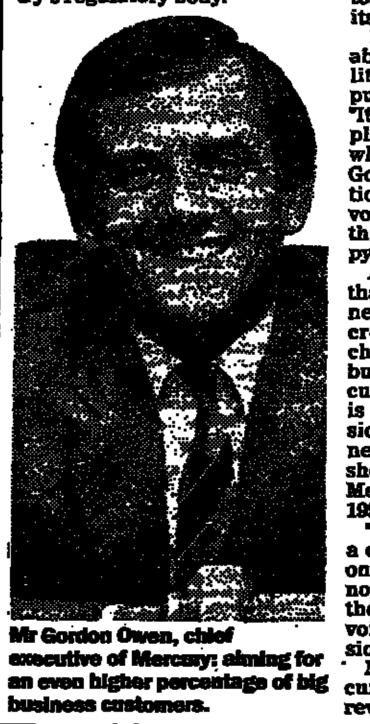
Achieving this perception - that Mercury is not, as the opponents of privatisation allege, a cream-skimming operation chasing only the custom of big business - is important for Mercury, because the Government is beginning to ponder decisions central to the future of the new network. Principally, should the duopoly of BT and Mercury be continued past 1990?

"The idea of a third carrier in a country the size of ours is not on," says Mr Owen, though he is not against extra competition at the edges, such as the re-sale of voice or through cable television networks.

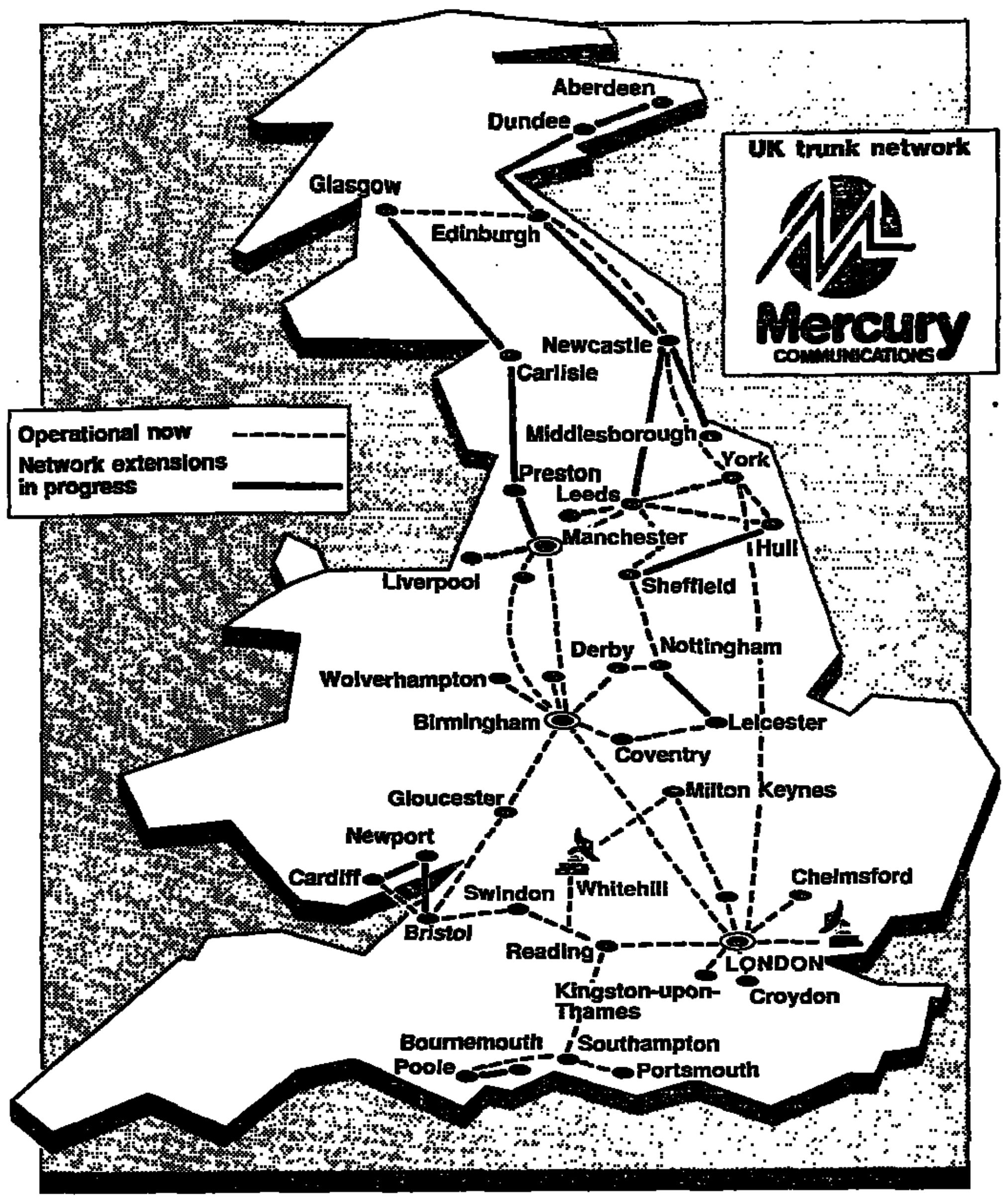
Meanwhile, the heart of Mercury's 4,000 customers and of its revenues - which the company hopes will be £500m by the end of the decade - are still in big business, directly connected to its network. These, like its smaller customers, can take advantage of Mercury's more modern network and cheaper prices.

Mr Owen says response from big business has been phenomenal. Most large City companies use its services and it is now spreading out into building societies, insurance companies, high street retailers and the blue chip manufacturers. Moreover, the £300m invested so far means it has established most of its basic network. The bulk of investment in future will be geared directly to growth in demand. On past performance, there is likely to be plenty of that.

David Thomas



Mr Gordon Owen, chief executive of Mercury: aiming for an even higher percentage of big business customers.



UK equipment trade

Telecommunications equipment values in £m

Year	Total imports	Total exports	PABX imports	PABX exports	Telephone set imports	Telephone set exports	Transmission exports
1978	54	98	na	na	1.6	na	46.4
1979	61	111	na	na	2.2	na	30.8
1980	70	97	na	na	3.1	na	na
1981	96	131	47.9	6.8	5.0	na	42.1
1982	125	144	79.2	9.0	5.5	5.4	55.0
1983	200	157	61.7	21.0	19.7	4.1	na
1984	234	183	73.5	25.7	23.8	5.9	67.5
1985	317	242	na	na	32.9	11.2	102.2

Source: Business Monitor, Monopolies Commission.

UK profile: Professor Bryan Carsberg

BT's judicious critic


Professor Bryan Carsberg: pressing for competition

PROFESSOR BRYAN CARSBERG, director-general of the Office of Telecommunications, the regulatory body for UK telecommunications, came through a baptism of fire this year.

For although the row which broke out this summer about British Telecom's poor quality of service was mainly directed at the newly privatised company, Carsberg was under scrutiny too. Many of the letters to newspapers were directed against Oftel. A watchdog without teeth, in the pocket of BT, impossible to find in the phonebook - these were familiar refrains.

A lesser man than Carsberg would have buckled under the pressure and rushed into some ill-considered action against BT to demonstrate his toughness. Carsberg was certainly active: he pushed BT into resuming the publication of quality of service statistics. He threatened the company with financial penalties unless it improved its installation and fault repair performance and he published a damning survey of BT's call boxes.

Yet he also resisted the wilder assaults on BT. He was quick to point out that, although interrupted by the BT dispute this year, BT's quality of service has gradually improved since privatisation. "BT has been rightly criticised, but some of criticisms have been over-stated," Professor Carsberg says.

This judicious willingness to stand up to pressure has won the 48-year-old professor great respect since he became Oftel's first head in 1984, in the face of widespread fears at the time that Oftel would be no match for BT, the privatised near-monopoly.

He has a complete grasp of the intricacies of both the complex framework governing the UK's liberalised telecommunications industry and the fast evolving industry itself.

Yet his past as an academic accountant, most recently as professor of accounting at the London School of Economics, hardly seemed the ideal training ground for the glare of publicity he receives at Oftel. Prof Carsberg says, however, that he learned to deal with the media in the US between 1978 and 1981 when, as assistant director of the Financial Accounting Standards Board, he helped prepare the first inflation accounting standard in the US.

Appointed this year for another five-year term, he now has enough experience under his belt as head of Oftel to reflect on the experience of telecommunications liberalisation in the UK to date.

He accepts that the early framework was a trade-off between what was ideal and what was achievable within a reasonable timescale. But Prof Carsberg believes that the framework at present requires only what he calls "fine tuning:" one example he gives is the need to build in more quality of service criteria into the rules governing BT.

He is happy with the powers available to Oftel and to himself, although some observers believe the cumbersome requirement for him to refer licence disputes between himself and the telephone operators to the Monopolies and Mergers Commission may have blunted Oftel's cutting edge. Prof Carsberg has not invoked that power yet, although he has said that he will probably initiate a major Commission investigation into BT's pricing framework next year.

The Oftel head foresees a steady evolution of the structures governing telecommunications in the UK. He expects the Government to allow companies to be able to lease lines from BT and Mercury Communications, the two network operators, and re-sell them for simple voice traffic in 1989, when the decision is due.

He is less sure whether the Government should encourage a third or more network competitor to BT and Mercury after 1990, when the duopoly is due for review.

He talks excitedly about the continuing need to press for more competition in local telephone services in the UK - a feat which he says even the deregulated US has found it hard to accomplish. He believes that Mercury will extend its residential services and that cable television companies will increasingly carry phone services over their networks.

The Oftel director-general is so confident about the benefits of liberalisation that he is unworried by the increasing division of the telecommunications world into two camps: the US, UK and Japan which have introduced competition into their basic telephone networks; and the rest, most of which have drawn back from this radical step.

"After all, the US and Japan are pretty distinguished company to be in," Prof Carsberg points out.

David Thomas

Equipment Suppliers

World suppliers of digital public exchange equipment ranked by turnover (figures for 1985 or nearest comparable period)

		£m	% of Total
	Alcatel CIT *	700	8.8
	Ex-ITT	850	10.7
1	Alcatel	1,550	19.5
2	AT&T	1,350	16.9
3	Northern Telecom	1,000	12.6
4	NEC/Fujitsu/Hitachi	1,000	12.6
5	Siemens	950	12.0
6	LM Ericsson	750	9.4
7	GTE	350	4.2
8	Plessey (inc. £70m Stromberg Carlson)	330	4.1
9	GEC	260	3.3
10	Italtel	180	2.3
11	Philips (AT&T Equipment)	130	1.6
	Others	120	1.5
		7,970	100.0

*These two merged in January, 1987 to form Alcatel.
Source: Monopolies and Mergers Commission.

Above: Sir John Clark, chairman and chief executive of Plessey, who puts an emphasis on his role as an innovator. Pictured on the left: Lord Weinstock of GEC. The merger of GEC and Plessey's public switching operations gives combined group sales of £590m (7.4% of world sales), which now puts the group into seventh place in the above table.

UK telecommunications merger

Ready to venture abroad

THE GENERAL Electric Company and Plessey, Britain's two largest telecommunications equipment manufacturers, will hold crucial negotiations over the next couple of months which will determine the shape of the UK industry probably into the next decade.

The two companies have to put flesh on the bones of their dramatic announcement, made at the start of this month, that they were to merge all their telecommunications equipment interests, an announcement which turned the UK industry upside down.

Among the matters to be finalised are the management structure for the new venture, the precise amount of rationalisation and cost saving it will yield, and the strategic priorities of the new company once it is up and running.

Already it is clear, however, that GEC and Plessey believe the merger will greatly strengthen their presence on world markets. While it will not propel them far up the world league table of equipment manufacturers, it will create a joint venture with an annual turnover of more than £1.2bn, allow them to cut their cost base particularly in manufacturing and give them the backing of both their parents in meeting international competition.

Moreover, GEC and Plessey believe their merged interests will have the credibility to attract foreign companies seeking partners in the scramble for international joint ventures which increasingly dominate the industry.

The clear priority for the new venture will be to pick up more sales outside Britain, which at present amount to less than 30 per cent of each company's turnover from telecommunications equipment.

GEC and Plessey can hardly look to squeeze much more market share out of Britain, especially since the UK is now one of the world's most open telecommunications markets, because the new venture will dominate many markets in the UK - not just public exchanges, but also private exchanges, multiplex equipment, copper transmission systems and microwave radio.

Shares of UK Telecoms equipment market

	% Market share GEC	Plessey	Combined
Switching			
System X	37	63	100
Telex switching	76	23	100
Transmission (excl. cable)			
Multiplex equipment	62	19	81
Subscriber modem equipment	2	3	5
Copper transmission systems equipment	75	17	93
Optical transmission systems equipment	4	62	67
Network management systems	10	40	50
Microwave radio	50	30	80
Apparatus			
PABX equipment			
large	17	53	70
medium	26	25	51
small	47	15	62
Telephones	13	22	35
'intelligent' payphones	—	67	67
Data network products			
Packet switching	9	28	37

Source: MMC study

With their home market now much more competitive, both companies have boosted their overseas activities. Plessey has successfully turned round Stromberg-Carlson, its Florida-based exchange manufacturer, which is now winning orders from Bell operating companies eager for a third exchange supplier in the US. It has developed an internationally successful payphone business. And it has signed a number of joint ventures aimed at boosting overseas sales, such as with Italtel of Italy on private exchanges and with US Sprint on packet switching equipment.

Both companies believe the venture must add to its sales in the US, building on Stromberg's success. Mr Richard Reynolds, managing director of GEC telecommunications, said immediately after the merger was announced that the US focus was unlikely to be in private exchanges, which he described as a commodity business, but in networking products such as transmission equipment.

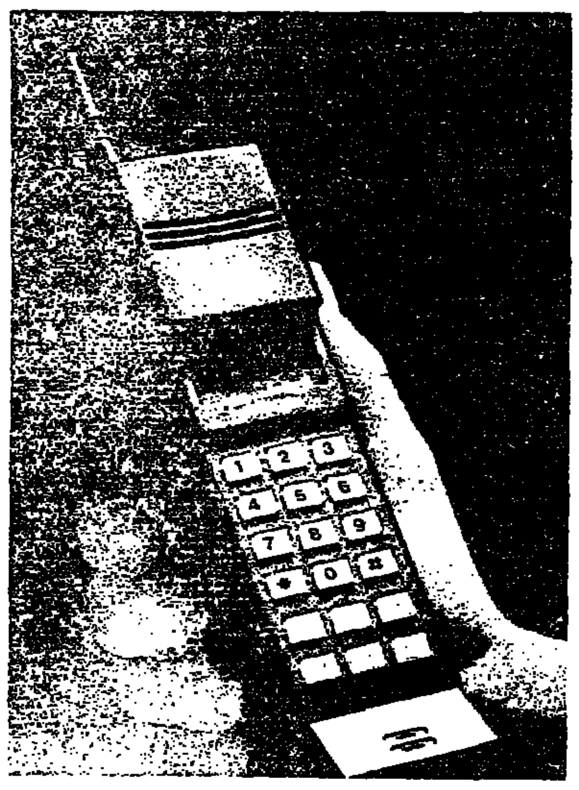
The joint venture agreement appears to bring to an end the long-running saga of the fraught relations between the two companies, which had culminated in the hostile bid by GEC for Plessey last year. The bid was vetoed by the Monopolies and Mergers Commission largely on the grounds that it would reduce competition in the UK defence industry, where both companies are also strongly represented.

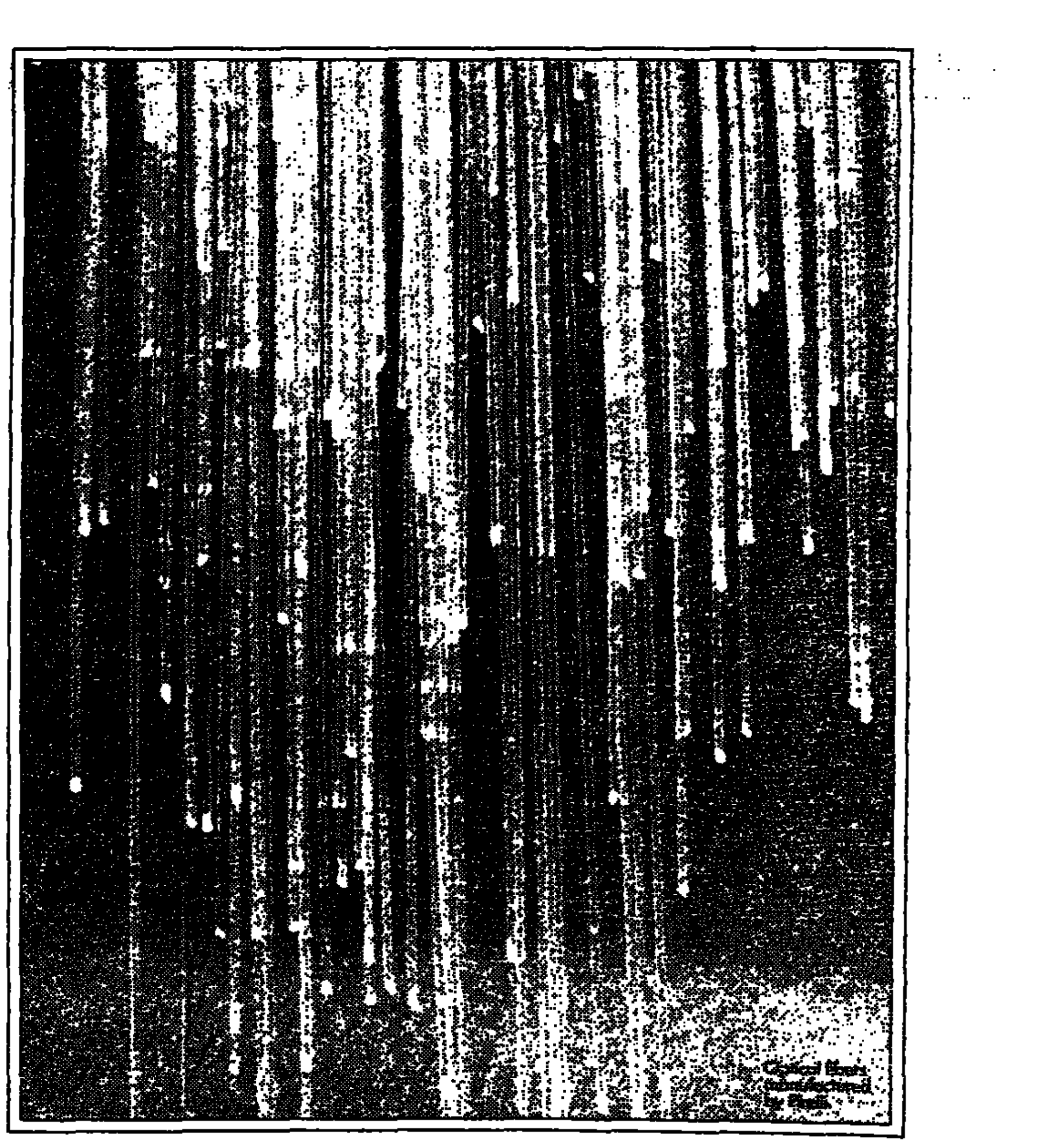
However, the Commission, echoing views widely held by industry observers, saw merit in the two companies merging their overlapping manufacturing interests in System X, Britain's only digital public exchange.

The agreement reached by the companies goes far beyond System X, however, to include private exchanges, transmission and data communications. Of the £1.2bn annual sales of the new joint venture, System X accounts for about £450m, private exchanges £300m, with the remaining £200m being composed of a number of products including data communications.

The next year should show whether the flagship UK companies, long regarded as also-rans in the international equipment business, have left it too late to sort out their mutual problems. Or it may be that they now have the momentum to emerge as strong players on the international market.

David Thomas





Profile: Ericsson of Sweden

Impressive defence of its position

ERICSSON, the Swedish telecommunications group, has impressively defended its position as one of the world's leading telecommunications groups, not least through its victory in the prestige-laden battle to take over CGCT, the *struggling* French producer with its 16 per cent of the French market for telephone exchanges.

In the process it succeeded in out-manoeuvring two of its *strongest international competitors* AT&T of the US and Siemens of West Germany.

At the same time the group is beginning to the see the light at the end of the tunnel in its costly effort to break into the demanding US market for public telephone exchanges. In addition to test installations, it has *now signed contracts with four* of the seven regional Bell operating companies, although it is still to receive any large volume orders.

Mr Bjorn Svedberg, Ericsson's chief executive, insisted earlier this year, however, that the group was still on schedule for its target of a 10 per cent share of the US central office switching market by the end of the 1980s.

Ericsson was the first non-North American telecommunications group to pass the Phase A testing by Bellcore (Bell Communications Research), the research organisation of the Bell operating companies with its AXE digital public switching system.

The current Phase B field tests include applications at the extremes of public swtiching environments, a 6,500 line switch for Nynex in New York's high density financial district, and a 10,000 line switch for Mountain Bell serving a low density rural area of Canon City, Colorado.

Mr Svedberg says that the public and private telecom market worldwide is "very tough in the short-term," but he maintains that some of the group's competitors "will fall by the wayside, leaving growing markets *to a shrinking number of* players."

The Swedish group is the world's most international telecommunications equipment supplier, and by the end of last year it had 16.8m AXE lines installed or on order in 66 countries. The AXE switch is now being manufactured in 18 countries.

In Europe, Ericsson is the number two supplier in a number of countries including the UK, which is now *its* largest single market for AXE systems. In the UK and France it has entered into local partnerships with Thorn EMI and Matra respectively, and it is also seeking partnerships in Italy and Spain with Telit (the Italian holding group, which is to bring together the *state-owned* Italtel and Fiat's Teletra) and Telefonica respectively.

Mr Svedberg maintains that if Ericsson reaches its targets in the UK and the US, it should increase its existing volumes by 30-40 per cent or 1-1.5m lines a year. Volume deliveries of about 700,000 lines a year have begun in the UK this year, and the group hopes to be making similar volume deliveries in the US in two to three years.

It has achieved an important market breakthrough in Algeria this year, where it has been selected to modernise the telecommunications network, and it has also won substantial follow-on orders in China, where 140,000 AXE lines are in service and a further 280,000 lines are on order.

Ericsson is still failing, however, to achieve the financial breakthrough that would match its marketing successes, and investors have had to endure a number of unpleasant shocks in recent years as profits have lagged well behind the group's stated ambitions.

The latest setback came in the first half of 1987, when profits (before appropriations and taxes) *fell by 11 per cent* to SKr409m from SKr461m a year earlier. The picture would have been even worse but for extraordinary gains of SKr275m from the sale of shares and assets.

The group's profits have been under heavy pressure since the second half of 1984. Last year Ericsson achieved profits (before appropriations and taxes) of SKr911m compared with SKr878m in 1985, SKr1.57bn in 1984 and SKr1.76bn in 1983. Group turnover last year totalled SKr31.6bn.

Despite far-reaching restructuring programmes, not least in the previously heavily loss-making information systems division, Ericsson has failed decisively to turn the tide.

In June, Mr Svedberg warned again that the group's simultaneous telecommunications development programmes in the US and the UK required "large amounts of money and are depressing our earnings." He said *the group was experiencing* problems from seeking to conduct a number of major development programmes at the same time.

In the first half of 1987 the sales of Ericsson's public telecommunications division rose by 6 per cent to SKr5.58bn and new orders rose by 3 per cent. The group claimed that it had increased its market shares, chiefly in Europe, but it had to admit that at the same time margins had declined. It said that despite corrective measures it had not been possible in the short-term to compensate for increased pressure on prices and continuing high development costs.

Public telecommunications last year accounted for 55 per cent of Ericsson's operating income and 32.6 per cent of group turnover of SKr31.6bn. Information systems accounted for 29 per cent of sales, cables for 11.4 per cent, defence systems for 8.8 per cent, radio communications for 8.5 per cent, network engineering and construction for 7 per cent and components for 2.5 per cent.

Some 22.1 per cent of group turnover comes from Sweden, *42.6 per cent from the rest of* Europe, 10.4 per cent from Latin America and 9.9 per cent from North America.

In a number of its business areas Ericsson is increasingly entering into partnerships in order to gain access to outside technology and in September it announced that it would join forces with IBM of the US in the development of new features for advanced telephone networks.

Kevin Done
Stockholm

Norway

Soaraway growth

"I KNOW of no other European *telecommunications* administration where the growth is as rapid as it is in Norway," says Mr Kjell Holler, director-general of Televerket, the Norwegian Telecommunications Administration (NTA).

The real growth of Norwegian telecommunications has been *at an annual rate of 12-14 per* cent in the last two to three years. This high growth rate has been maintained by an annual investment rate of NKr 4.5bn on annual sales of NKr 12bn.

Liberalisation of the telecommunications environment has also given Norway a leading edge on the other Nordic countries. In 1985 it was decided by parliamentary decree that the Norwegian Telecommunications Administration (NTA) would be split into three areas within the terminal market and that free competition would be allowed.

A new telecommunications *company, TBK, was established* with a share capital of NKr 400m to deal with the non-regulated businesses of NTA. TBK is 100 per cent owned by NTA. Its line of business is restricted to trading and installation of communications equipment.

A new governing body, STF (Statens Teleforvaltning) was transferred from the NTA to oversee the rules for competition, frequency management, *type approvals and licences*. The newly created regulatory authority will come under the jurisdiction of the Ministry of Communications. Competition was thus introduced into all subscriber-equipment markets.

British telecommunications consultants Havronics Telecommunications advised the new governing body, providing comparative information about the liberalised market situation in the UK and highlighting the difference in equipment standards, regulations and approval philosophies between the UK and Norway.

The new approvals body will *become fully operative in 1988.*

Under the new liberalisation, the NTA's monopoly, however, was more or less left intact. There was a broad political consensus that the Norwegian telecommunications network should be a monopoly so that control of expansion would be maintained. Equipment supply was transferred to TBK from 1986 and it has operated as NTA's equipment supply *branch*. In addition TBK supplies equipment for CATV in competition with private companies.

The NTA is seeking financial freedom from the Government so as to be able to approach the money markets for its financial requirements. A proposal to this end will be presented to the Storting (Norwegian parliament) in 1988. The NTA's budget has always been decided by the Government, from which it has obtained loans at normal interest rates. In the national budget for 1988, the NTA has been given a running balance of NKr 6bn.

Mr Holler is confident that new government thinking could allow the NTA to seek the money it needs privately. "I know that right now I could call one of the biggest banks in Norway and borrow NKr 500m because of our high standing and profitability," he says.

The new liberalisation has, however, left open some questions about a provision for valued added network services (VANS). *A government-appointed* committee, whose mandate is to discern where the line should be drawn between the NTA and VANS, is to deliver a report for Storting discussion by the end of this year. Mr Holler says that because VANS are growing rapidly, he would like to see the NTA compete in that sector as a private company, although it is not yet known whether that would be in competition with the newly-formed TBK.

New services such as mobile telephone and data communications have also experienced tremendous growth. While normal telephone services require the greater slice of NTA's income, new services are expected to demand some 30-40 per cent. Norway has the world's highest mobile telephone usage -there are 26 mobile telephones per 1,000 of Norway's population of just over 4m - or roughly eight times more distribution than in the UK and 50 times higher than in West Germany.

Mr Holler admits that NTA is having some problems in meeting the demand for new services. "We could use at least NKr 500m more for investment to meet demand," he admits. He would also like to have the financial freedom to improve staff wages as a way to encourage trained technicians to stay with the company.

The process of digitalisation started in 1986. Alcatel's System 12 is being implemented to give Norway one of the most advanced telecommunications systems in the world. By the end of this year some 40,000 subscribers will be connected and that is *expected to* increase by more than 200,000 annually from 1988. There are about 2m telecommunications subscribers and the number increases at a rate of 100,000 a year. By 1993 around 50 per cent of the Norwegian subscribers (1.3m) will be connected to digital exchanges.

Next year, trials with a new integrated services digital network (ISDN) will start and by 1990 a pilot service will be launched. The network will allow access to a broad range of telecommunications services through a single connection point.

Karen Fossli
Oslo

Denmark

Low-cost calls

WITH THREE regional telecom companies and two state operating agencies, Denmark has a somewhat unusual telecom setup.

There is a single unified network and no direct competition between the companies, which only operate within their own regional areas. But the structure generates competition indirectly.

All the companies, of which Copenhagen Telephone and Jutland Telephone are the two biggest, are keen to prove to their political masters and their customers that they are best and most efficient. The technical staff in the companies compete keenly to be the first with the newest.

There is no way of proving that this form of competition, which is not competition in the market, is the reason, but it is a *fact that telephone charges in* Denmark are the lowest in Europe and its telex charges second only to the UK. And the Danish companies are not being bombarded by customer complaints about poor services and general inefficiency.

The companies are not free to set their own charges, however. They must apply to the Government for permission to raise charges. The Government as often as not tells them to halve a planned increase.

As Denmark has no own manufacturer of switching equipment, the Danish market has always been open to competition from the international suppliers, making it an interesting test market. Ericsson, supplemented by Siemens at Copenhagen Telephone and Alcatel (ITT as was) at Jutland Telephone, has won the main contracts for digitalisation, which is going ahead fast.

The majors have recently got a Danish niche competitor, however, in Bang & Olufsen, better known for its television and audio equipment. The company has developed a line of sophisticated equipment for small exchanges, which the company believes is going to play an especially useful role as integrated service data networks (ISDN) systems go into operation in the next year or two.

Danish industry has carved out a more important role for itself in the construction of the 'hybrid network', an ambitious project, given the political go-ahead in 1983, to create a national *broad-band optical* fibre net.

One of the country's oldest cable and electro-technical companies, Nordisk Kabel og Traadvarefabrik (NKT), took the plunge into optical fibre technology, producing fibre, transmission and conversion equipment, for which it has won several export orders - in Kuwait, Finland, Switzerland and the UK - as well as being a main supplier to the Danish hybrid net. Last year AT&T gained a foothold in the European opical fibre market by acquiring a majority stake in NKT's fibre production unit.

The philosophy behind the hybrid net is to construct a trunk line broad-band system, combined with coaxial cable links to the end-users. In the first phase this is being used to provide cable TV and radio services.

In the next phase, business users who need the two-way signal capacity of the broad-band net will able to link up to the trunk line system. In the final stage, households will be linked in to the system as well.

In the debate on liberalisation the Danes are following a middle way. Network competition is not on the agenda, as Mr Hans Wurzen, director general of the Post and Telegraph Agency (PTT) said in a recent presentation. "Here with us the telenet is regarded as a national resource, which through standardisation should facilitate the widest-possible general utilisation. This makes possible greater competition in the provision of terminal equipment and value added network services," he said.

This leaves unsolved a host of problems concerning third party traffic, provision of private supplementary services and competition in terminal equipment. In principle, the entire field is subject to a state-controlled monopoly, but in practice the monopoly is punctured by liberal practice in awarding dispensations.

Where terminal equipment is concerned, the basic practice is *that equipment must receive* type approval. For new services, mobile phones, telefax, teletext, and personal finders, the market has been fully liberalised on these terms.

Mr Wurzen hopes that the entire modem field will be liberalised in the New Year, but telephones have proved troublesome, as there are several Danish producers, especially GNT Telematic, subsidiary of Great Northern Telegraph, and KirkAlcatel (formerly Standard Electric Kirk).

Private value added services have generally been permitted if the public services do not or cannot provide the service themselves. Telexbureaux operations, at least one of which is foreign-owned, have been allowed, for example.

A final solution to third party use of private data or telenet services on leased *lines* has not emerged. The problem is that if a private customer is able to take payment for the use of its leased lines; it then offers services in competition with the offical monopoly companies.

It also puts a dent in the principle that the operating companies must service all customers within their area, including those on which they can expect to make a loss, on equal terms.

A system is being considered by which a supplementary leasing charge will be made, and it will be related to the number of circuits available, with a quantity rebate, according to Mr Wurzen.

The telephone companies themselves will be in competition with private businesses for value added services. The problem here is to avoid unfair competition by the monopoly companies. The principle has therefore been adopted that money must not pass from the *monopoly operations to competitive* operations, which have to be hived off into separate companies with their own accounts and which are supervised by the PTT and the monopolies authority.

Hilary Barnes
Copenhagen

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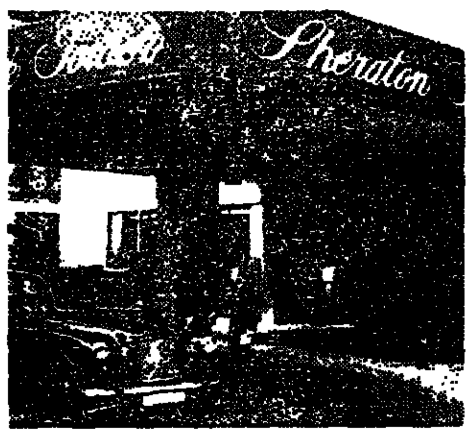

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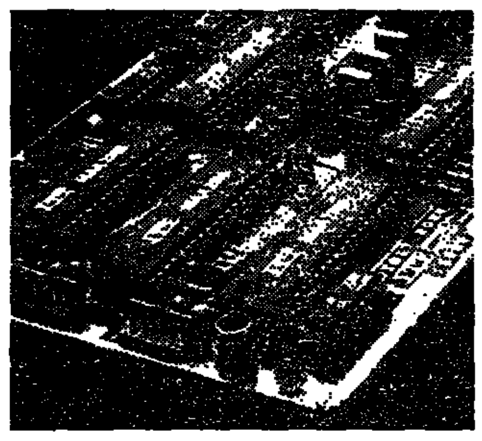

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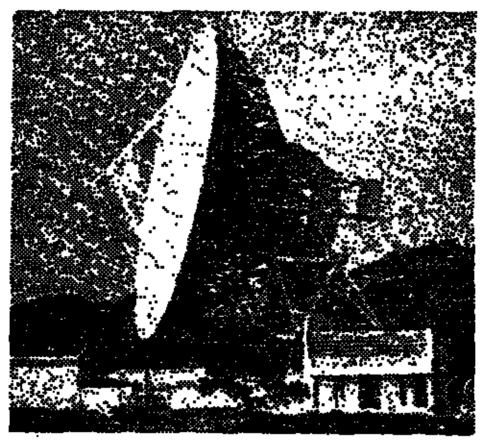

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Finland

Niches of world leadership

IT WAS A phone call with a difference. Mr Pekka Tarjanne, head of Finland's telephone and telecommunications administration, dialled the number of his counterpart in Stockholm in mid-September, made the connection - and saw him.

That call *may have inaugurated* the world's first visual telephone contact using normal telephone lines. The system was developed by five scientists at Finland's State Technical Research Centre who later formed a company called Vistacom for commercial production. Commercial sales are expected to begin in a couple of years.

Vistacom demonstrates what Finland has to offer to the world of electronics and telecommunications. Finnish firms account for only 0.05 per cent of the global output in those fields, but in a few, narrow niches they are among the world leaders.

Finland lacks key raw materials and its small population does not provide a big enough home market to build on. And its open-door policy invites constant competition from abroad.

Despite the odds, some companies have made it to the top. And now a second wave of entrants trying to penetrate the European market is emerging. The Eureka programme and other pan-American projects, such as CERN and ENA, have attracted a host of Finnish companies.

Meanwhile small silicon valleys have been set up all over the country, mainly close to existing technical high schools, which provide innovations and R&D for entrepreneurs willing to take a risk.

The best known of Finland's high-tech companies is Nokia, the country's largest publicly quoted group with interests in electronics, information systems and cables as well as paper and rubber industries. Nokia's turnover tops FM11bn ($2.5bn), the bulk of which is generated in high-tech products.

Nokia has found its niches in mobile telephones, telecommunications and consumer electronics. Thanks to its joint ventures with Tandy of the US and Matra of France, Nokia-Mobira is now the world's leading maker of mobile telephones with a 16 per cent global market share.

Despite its strong position Mobira suffers from a slight image problem as the products are sold under various names around the world. The company has now started to promote the *Mobira brand actively.*

Nokia was also one of the first companies to develop a fully digital transmission system in the early 1960s. In consumer electronics Nokia follows a different strategy. It does not develop new products but expands aggressively in production of television sets.

It acquired two large Scandinavian TV producers, Salora of Finland and Luxor of Sweden, earlier this decade. Two months ago Nokia bought the French TV maker Oceanic from Electrolux of Sweden. Now Nokia ranks No 3 TV maker in Europe. It has also developed microcomputers, although the company had a sticky start with marketing problems abroad. Since it has concentrated on special applications, such as advanced banking technology, the sector has turned successful.

Lohja, Finland's second television producer, may be dwarfed by Nokia in volume but not in technology. It recently publicised the first fully operational flat screen television set in Europe.

Vaisala, the manufacturer of environmental measurement systems, is the leading maker of radiosondes, which measure the pressure, temperature and humidity of the atmosphere. Its R&D budget accounts for about 20 per cent of annual turnover.

Electronics is Finland's fastest growing industry with an average annual growth of 15 per cent this decade. The combined gross value of electonics production was FM10.6bn($2.4bn) in 1986.

Exports of electronics increased by 38 per cent during the first six months of 1987 compared with the same period last year. An increasing share of exports and production is in the hands of small, innovative electronics companies, like Vistacom. Companies are dialling for success and occasionally making the connection.

Olli Virtanen
Helsinki

Italy

The war of words that surrounds Telit

NOT MANY attempts at establishing a unified industrial logic for one nation's telecommunications sector can have been as controversial, as poisoned by personal and political animosities and as utterly frustrating as the lengthy and self-defeating row over the formation of Italy's Telit, the umbrella company meant to bring together the state-owned Italtel and Fiat's Telettra subsidiary.

The creation of Telit, at least in the rhetoric that has accompanied the past two years of negotiations, was to have been a sign of Italy's determination to strengthen its position in the restructuring of the European telecommunications industry. Telit was to have achieved a "critical mass" for the Italians by bringing together Italtel, the public switching company owned by IRI-Stet, with Telettra, the smaller data transmission business that is part of Fiat.

In turnover terms the bringing together of Italtel ($985m of sales) and Telettra ($420m of sales) still leaves the Italians as minnows on the world market. But as a first step toward reaching a trans-national alliance with companies such as Siemens, Ericsson, Plessey and GEC, it is deemed to be essential.

The fate of Telit is still hanging very much in the balance. Some way must be found to save the faces of both Mr Cesare Romiti, the Fiat managing director, and Professor Romano Prodi, the IRI chairman - both have managed lately to take extreme positions which leave little room for compromise in the long-running saga.

A brief history of the Telit affair goes like this: Two years ago talks began, with the idea of bringing together the state and private companies. A year ago the Telit affair ran into controversy over the shareholding structure and then the valuation of Italtel and Telettra. These matters were resolved eventually by deciding that Fiat and IRI-Stet would each have 48 per cent of Telit, while Mediobanca, the Milan merchant bank, would hold 4 per cent of the shares.

Accountants Arthur Andersen and Price Waterhouse, meanwhile, agreed on valuations of around L420bn for Telettra and L810bn for Italtel. It was agreed that Fiat would pay L176bn to IRI-STET to achieve shareholding parity in Telit.

Last February it appeared that the deal was done. Mr Romiti and Mr Giuliano Grazioso, managing director of Stet, finished up their meetings by agreeing a board of three Fiat directors, three Stet directors, one from Mediobanca and the president and managing director to be agreed jointly. Fiat indicated it would name Mr Rafaele Palieri, managing director of Telettra, as Telit's president. And the candidates for managing director of Telit were Mr Salvatore Randi, the Stet director-general who has been a top executive at both Telettra and Italtel, and Mrs Marisa Bellisario of Italtel. Fiat preferred Mr Randi, who once worked for the Turin group, to Mrs Bellisario, who has links with the Socialist Party.

When Italy went into a political crisis and general elections last spring, its industrial policies went out of the window. The Telit issue was put off until July when, according to sources close to IRI, Prof Prodi decided to name Mrs Bellisario, the Italtel managing director, to the same spot at Telit. Mr Romiti is understood to have told IRI-Stet *he was opposed to Mrs Bellisario* on the official grounds that he thought agreement had already been reached on Mr Randi and on the unspoken grounds that Mrs Bellisario had the backing of the Socialist Party of former Prime Minister Bettino Craxi.

In other words, Fiat feared political interference at Telit while the Rome political world feared that with 48 per cent of the shares Fiat would take effective control of Telit.

The climax (if it can be called that) to the increasingly unedifying Telit saga came on Friday, September 18, when IRI put out a cryptically worded statement that announced that Mrs Bellisario would get the Telit job. Five days later Fiat released a violently-worded communique in which it threatened to pull out of Telit because of the appointment.

All of this came in the wider context of a war of words between Socialist, Christian Democrat and Communist politicians on the one hand and Fiat on the other in which the Turin *group was accused of arrogance* and excessive power over the economy. Mr Romiti responded to the criticism by speaking of "anti-capitalist vomit."

In this poisonous atmosphere, as one dedicated telecoms executive complained, no one seemed to care about the industry. The Italian telecommunications sector, meanwhile, is in dire need of rationalisation and competition.

SIP, the state telephone utility, buys 80 per cent of Italtel's output and less than a third of Telettra's. SIP spends around L5,500bn a year on telecoms, including equipment, switching, transmission, cables, installation and networking materials. Other state companies and the private sector spend a further L1,500bn, making for a total market of L7,000bn. The equipment market in Italy is worth around half the total, or roughly L3,700bn a year.

Aside from Italtel and Telettra the other big players in Italy are Siemens-GTE, Face (ex-ITT, now Alcatel), Fatme (Ericsson) and Marconi. But as one insider in Rome puts it: "The Italian telecommunications market is an inefficient monopoly which is divided among a few big players."

Over the next five years the Italian market has a fair amount of growth potential - it is still underdeveloped by European standards. The equipment market could expand by 25 to 30 per cent a year between now and 1993. But the bitterness created by the Telit battle is not an encouraging harbinger of things to come.

Alan Friedman
Milan

Business profile: Marisa Bellisario

The jet-setting Socialist

MARISA BELLISARIO is an unusual animal in Italian state industry - she is an extremely talented and tough-minded manager who *also* has a distinct political orientation towards the Socialist Party of former Prime Minister Bettino Craxi. That is unusual in the world of Italian state industry - normally one might find talent or party affiliation, but rarely both characteristics in one person.

The managing director of Italtel, the Milan-based telecommunications equipment company that she brought from $133m of losses in 1981 to healthy profitability, is today as controversial on the national political scene as her spiky red hairdo and designer jeans once were inside industry.

The controversy surrounds her appointment as managing director of the new Italian telecoms umbrella company, Telit, which is meant to bring together both Italtel and Fiat's Telettra subsidiary in one company. The IRI state holding group has backed Mrs Bellisario, but Fiat has vetoed her, not on personal grounds, but because the Turin company feels she has been imposed on Telit for political reasons. As one executive close to Fiat puts it: "How can we run a company if the managing director will always have the backing of the Socialists?"

Mrs Bellisario, who is Italy's most famous female executive and the author of a best-selling autobiography, called *Woman and Top Manager*, has denied that her support for the Socialist Party would in any way affect her work at Telit, but in Italy there tends to be much guilt-by-association.

The 50ish Mrs Bellisario (despite having served on a national committee for equality between the sexes she still maintains that it is a woman's prerogative not to reveal her age) is an unusual figure for more than just her politics and managerial career. For one thing, she looks more like a tanned Milanese socialite than the $200,000-a-year chief executive officer of a company that makes public switching systems.

Looks are deceptive however: Marisa Bellisario may seem soft-spoken, but she has a steely determination to get her own way, a determination that helped her to slash the Italtel workforce from 30,000 to 19,000 in just four years as part of her textbook cure for the telecoms company.

She will need more than just determination to survive Fiat's objection to her nomination at Telit, however. She will need to have a great deal of luck and a face-saving compromise will have to be worked out between IRI and Fiat. Meanwhile, the jet-setting Mrs Bellisario (weekends in Turin, a couple of days in Milan and Rome and then on to London, Paris or Frankfurt each week) is carrying on with her Italtel commitments.

When the controversy over her appointment to Telit reached its peak last month she took off for London, where she promptly ran into Mr Cesare Romiti, the Fiat managing director who had wielded the veto against her. Just to stress that there was nothing personal, Mr Romiti tapped "La Bellisario" on the cheek during a Fiat-sponsored cocktail party at the House of Commons. All of this may be in the best tradition of Italian comic opera, but it did not mask the very real difficulty of salvaging a coherent Italian telecommunications policy, given the current state of relations between Mrs Bellisario's patrons and the Turin group which is chaired by Mr Gianni Agnelli.

Mrs Bellisario's patrons in the Socialist camp are now saying they are not afraid of seeing Italtel continuing on its own, in the absence of a Telit deal. For his part, Mr Agnelli is saying precisely the same thing about Fiat's Telettra subsidiary.

Alan Friedman

Mrs Bellisario: steely determination

Belgium

A foot in the door

BELGIUM'S REGIE Des Telephones et Telegraph (RTT) is cautiously opening its well-protected doors to the competitive pressures that are starting to break down barriers across Europe's telecommunications industry.

The movement is slight, but the signs are that it is the beginning of the end for the two-company monopoly which has traditionally installed and maintained Belgium's telephone networks. The traditional players are Bell Telephone - the Antwerp-based offshoot of Alcatel, the newly-formed European telecommunications giant, and Atea, a subsidiary of the joint venture between Siemens of West Germany and GTE of the US. The tough new entrant on the scene is the Brussels subsidiary of the AT&T Philips combine.

The change comes on two fronts. The first is the RTT's long-awaited announcement in August of a BFr 41bn contract for the provision of new digital exchanges, associated equipment and research over the next five years. By letting in Philips, RTT introduced for the first time in the history of Belgian telecommunication networks a limited element of competition.

"We expect that this door which has been opened to us will open a little further in the future. We are already preparing our bids for the next stage," says Mr Marc De Block, managing director of AT&T and Philips Telecommunications (Belgium).

The second key influence for change is the setting up last August of a Government Commission to consider how far to go in giving the RTT more autonomy. The panel is also considering proposals for dismantling monopolies for main telephone sets, telex sets and some kinds of modems, now supplied by producers chosen by the telecommunications authorities.

Belgium's first tentative step towards a more open telecommunications industry comes after two years of traumatic public debate. Encompassing the lives of two governments, the controversy over how to share out the RTT contract has run both along political lines and along the Flemish-Christian divisions that touch almost every aspect of Belgian life.

On the political level, Mr Herman de Croo, the Flemish Liberal Communications Minister in the present four-party coalition, is a keen advocate of cutting state control over the sector. Pitted against him is Mrs Paula d'Hondt, the Christian Democrat Secretary of State for the PTT (postal and telecommunications authority), backed by a trade union movement fearful of anything that might smack of privatisation.

On the regional stage, Wallonian politicians from the French southern half of Belgium have grabbed the chance presented by the much-publicised RTT contract negotiations to extract promises of more investment by the contractors involved in their area. Both Bell and Atea are based in the Flemish north, with Philips in bilingual Brussels and ACEC making transmission equipment in French-speaking Charleroi. A more equal regional division of the RTT spoils was clearly important to a Government whose survival is perenially threatened by regional squabbles.

The result of this delicate balancing act is an RTT contract acclaimed by most parties as a masterpiece of compromise. The very fact that it covers only five years, as against the the former 15-year procurement programme it replaces, is a deliberate signal that the RTT is keeping its options open. "We wanted above all to abandon the old way of having long duration contracts which can no longer respond to the demands of fast-changing technology," says Mr Jozef De Proft, the RTT's administrator general.

The main part of the work, worth BFr 25bn, is the provision of 300,000 new lines annually for three years, of which 200,000 go to Bell and 100,000 to Atea, a significant change from their traditional 80/20 per cent carve-up of telephone exchange installations. Moreover, the pair get a further reduction in their allocation in the final two years, when a proportion of the work will be available for an open fight between Bell, Atea and Philips.

The price for the first stage is BFr 16,000 per line, well below the BFr 19,500 which the bidders had been offering. While the RTT's Mr De Proft admits that the price is still above international levels, he claims: "We have at last introduced the idea of competition."

Almost all of the next largest supply order, BFr 2.5bn worth of transmission equipment, goes to Philips. Bell and Atea's sweetener for having their monopoly eroded at a price lower than they would like comes in the form of a big share in a BFr 1.4bn per year research budget over the the next five years.

The aim is to collaborate with their would-be competitors on the preparation for broad band networks and the new terminals that go with them. Of that total, BFr 100,000 per year has been set aside for small businesses. Bell gets 48 per cent of the BFr 1.3bn balance, with 19 per cent going to Atea, 17 per cent to Philips and the 16 per cent balance to ACEC. In deference to Wallonian pressure, the RTT stipulates that the companies must spend between 30 and 35 per cent of their research contracts in the south.

In the nearer future, the next step towards liberalisation will come from the recently launched government telecommunications panel, due to report by the end of the year. The PTT has already decreed that mobile telephones - currently supplied exclusively by Siemens under the RTT label - are to be fully liberalised on December 1. Industry experts expect the panel to advocate gradual liberalisation for telex sets, now an ACEC monopoly and for main telephone sets, currently restricted to Atea and Bell.

Research scientists in the process room of Philips' Research and Development Centre at Eindhoven.

Meanwhile, Bell and Atea have started on a joint pilot project to set up a trial narrow band integrated services digital network (ISDN) for 700 subscribers, suitably divided between north and south, to open at the end of 1988. This will enable existing copper telephone lines to carry voice, data and video messages simultaneously, and is planned to become commercial by 1990, according to the PTT. Further ahead, Bell, ACEC, Philips and Atea are conducting feasibility studies into broad band communications, using optical fibres to do the same job faster and cheaper.

One major issue to be sorted out first is how the country's cable television companies are to be drawn into the ISDN network of the future. Belgium is among the most extensively cabled countries in Europe, with 90 per cent of its homes connected to any one of 40 overlapping and incompatible television operators. The PTT has started talks with the television operators on sensitive issues such as how they should pay to use the system and how cable television - now outside the scope of the PTT's authority - is to be regulated.

William Dawkins
Brussels

The Netherlands

The goal: to be even more business-like

LISTENING TO Mr Cor Wit, Director-General of the Netherlands' Post-Telephone-Telegraph (PTT) agency, one might think the government body will see little change when it is privatised on January 1, 1989.

The PTT is already profitable and has been for many years, while receiving no operating subsidies. Telecommunications and postal activities have been divided into two units in anticipation of privatisation.

New telecommunications products and services are consistently being developed and increasingly advertised. This business-like footing is not so surprising, however, since most companies owned by the Dutch Government make money without subsidies.

But things will clearly change when PTT telecommunications is spun off into a private company known as Nv PTT, whose shares are all in the hands of the Government. Nv PTT will compete with the private sector in peripheral products and services while maintaining a monopoly on the telecommunications infrastructure.

The postal activities involving small and medium-sized letters will remain a state monopoly, but heavier items and printed matter will continue to compete against the private sector, as has been the case for some time.

Employees of Nv PTT will lose their civil servant status and work under market-oriented labour contracts. Ambitious modernisation programmes through the turn of the century will require around FL 2.5bn a year in investments so Nv PTT will probably tap the capital markets soon after its privatisation.

"Profitability will be our goal," Mr Wit explained during a recent interview at his headquarters in the Hague. "We must have profits, although sometimes we already have more than we need."

As a veteran of European telecommunications, Mr Wit is particularly well placed to steer the government agency through its transformation into a private company capable of competing against the world's major telecommunications concerns. He has worked for the Dutch PTT for 30 years and has negotiated with the trade unions so deftly that bitterness over losing civil servant status was kept to a minimum.

Since PTT telecommunications is already in the black, Nv PTT's goal will be to continue posting profits when labour negotiations are market-oriented, investment funds from the Government dry up and competition from industry gets tough.

Nv PTT will be up against some of the same concerns that have been its suppliers - Philips of the Netherlands, Ericsson of Sweden and International Telephone Telegraph (ITT) of the US, whose European activitites have now been combined with Acatel of France - as well as other leading companies when it goes private.

Since Philips, Ericsson and Alcatel will remain suppliers for Nv PTT they will be competing against themselves, in a sense, but Mr Wit is confident that Nv PTT will not suffer.

"There will be carefully worded contractual terms to ensure that companies don't try to undercut the PTT," he says.

The two major market segments for both Nv PTT and the rest of the industry are consumers and business, with the latter growing faster than the former. Nv PTT will serve both segments although Mr Wit firmly refuses to disclose how big a market share the newly privatised company will aim for.

Development of innovative products and services is seen as much less difficult than marketing and selling. "Our know-how in peripheral equipment is good, but our commercial expertise and marketing skills are lacking," Mr Wit concedes.

In the consumer sector both products and services will be emphasised and the trend will be toward more sophisticated ones.

"So far we've operated in the moderate price category so we have room to move upscale in quality," he observes.

In the business sector customer service will be even more important because enterprises can hardly afford to be without telecommunications lines for long. Several years ago the PTT launched a glossy marketing campaign and opened colourful telephone shops to advertise the latest in private automated branch exchanges (PABXs), exotic home telephones and facsimile transmitters fax).

More recently a department has been established to help draw foreign companies to the Netherlands because of its advanced telecommunications infrastructure.

The department's first success was scored last month when Tandem Computers of the US announced plans to set up a European headquarters around Amsterdam's Schiphol Airport, in part because of the facilities promised for teleconferencing.

During the Telecom '87 exhibition in Geneva, from tomorrow until October 27, PTT telecommunications will have a "tele-auction" in which visitors will be able to buy flowers from Aalsmeer in the Netherlands via a two-way video and computer link-up. The tele-auction is designed to show how companies in the Netherlands can use telecommunications to improve their transport and distribution services.

A veteran of the European telecommunications scene: Mr Cor Wit, director-general of the Dutch Post-Telephone-Telegraph agency

PTT telecommunications is also participating in the Fl 1.6bn teleport office park now being built to provide high-technology office space for companies in telecommunications, information processing and automation, especially those seeking a European headquarters. A huge satellite dish and integration into Amsterdam's fibre-optic network will allow the latest in office automation such as value-added networks (VANs) and video conferencing.

Despite the new era of competition that is on the horizon Mr Wit foresees no need to raise telephone rates in 1989 and expects international and intercontinental tariffs to fall next year. Rates for telex, fax, viditel (videotext) and other sophisticated services also could decline as users grow in number.

One of the most competitive areas for Nv PTT will be privately-owned VANs, the complex link-ups of telephones, telex, fax and computers. VANs are the key to the future of high-tech telecommunications such as message routing, electronic mailboxes and data processing.

A new era of competition is on the telecoms horizon, particularly in the area of privately-owned value-added networks.

Nv PTT will maintain a monopoly over installation and maintenance of the telecommunications infrastructure - telephone lines and public switching systems - and is obliged to provide lines upon request. But if Nv PTT has too little time or money to instal the lines, then private companies can set up their own VANs on cable or optic fibre. No purely domestic satellite link-ups are allowed because the country is so small and crowded that the air-waves would be even more jammed.

Mr Wit is not especially worried about heavy competition from private businesses wanting to create their own VANs although other telecommunications agencies that have gone private in recent years have feared cut-throat competition. "I see no real problem or threat because the PTT will be able to supply most lines," he says simply.

Moreover, the lines supplied will be increasingly sophisticated types such as digital optical fibre, integrated services digital network (ISDN) and broadband ISDN. At the moment a Fl 7bn, 10-year digitalisation programme is being carried out to replace all the country's old-fashioned analogue public switching systems with digital ones and old telephone cables with optical fibre.

This programme is due to be finished by 1995 but by the early 1990s the second phase will begin - installation of ISDN to allow more peripheral equipment to be connected at one spot. For example, a video telephone, computer and telex could all be tied into the network at one juncture.

The third phase will be broad-band ISDN, which is to be in place by the turn of the century to transmit cable TV and high-definition TV in addition to all the other traffic. The whole modernisation programme through the year 2000 will cost around Fl 2.5bn a year, Mr Wit estimates.

To finance these long-term investments, Nv PTT will go to the capital markets. Mr Wit expects Nv PTT to tap the markets shortly after privatisation at the beginning of 1989.

The current transition period, moving from analogue to digital technology, has been fraught with problems, however. Bottlenecks have occurred in telephone traffic as the old switching systems have been pulled out and the new ones installed. Telephone lines have been jammed, domestic callers have been unable to make outgoing calls and foreign ones unable to make incoming calls.

At one point last year a group of Amsterdam companies was so angry about business lost due to poor telephone service that it threated to sue the PTT. Since then the agency has completed a Fl 200m plan called SNEL to untangle the worst bottlenecks.

But the Amsterdam area remains problematic and another Fl 380m is being spent this year and next to speed up digitalisstion.

The telephone traffic jams are the fault of both the PTT and its suppliers, according to Mr Wit. He accepts part of the blame because the PTT underestimated the growth in communications traffic and the burden on the infrastructure placed by increasingly sophisticated peripheral equipment.

But equally at fault are the suppliers, which are the joint venture between American Telephone & Telegraph and Philips (APT) and Ericsson. APT has encountered serious delays in the development of its 5S-RPX switching system, which was adapted for the European market from AT&T's switch for the US market. The software has repeatedly proven inadequate and has had to be rewritten.

"They (APT) can't deliver on time and that's the core of the problem with telephone traffic bottlenecks," Mr Wit says. Not till the end of next year will the Amsterdam problem be completely solved, he admits.

In a recent edition of the PTT's in-house newsletter Mr Wit used a sports analogy in a bid to elicit more co-operation from labour unions in agreeing on "market-oriented" contracts. "It is actually just like auto races," Mr Wit wrote. "Whoever runs the fastest training round gets to stand at the front of the starting line. We must ensure that we are standing at the front on January 1, 1989 because that gives us the best chance for the future."

Laura Raun
Amsterdam

One of the world's best-equipped cableships - British Telecom's cable repair vessel, 'Iris' - helping to lay new links to meet the increasing demand for international communications.

Ireland

Substantial progress

ON MAY 29 this year, Mrs Florence Buglar achieved instant fame, at least for a day. Mrs Buglar's face adorned the front covers of the Irish press as her manned telephone exchange in the small market town of Mountshannon, Co Clare, was switched off for the last time.

The replacement of Ireland's last manned telephone exchange marked another step in the transformation of what was once one of the most antiquated telecom networks in Europe.

At the turn of the decade, the Irish telephone service was something of a nightmare. American companies operating in the west of Ireland were still calling head office back in the US via operators. The general call failure rate was high and some places had no service at all.

After spending I£1.3bn so far on a re-equipment programme through the 1980s, things have improved substantially. Apart from the abolition of the old manned exchanges, some 40 per cent of customer lines are now serviced by digital exchanges.

That is not to say that everything is well with Telecom Eireann, the state-owned company, nor with its customers. The company has been making losses, though much reduced from a few years ago. Some types of calls are ferociously expensive. Telephoning out-of-the-way spots in Connemara or Donegal often produces connections with awful interference of the "salt and pepper" variety.

The speed of putting in new lines has been so rapid too that many of these lines are, at the moment, almost "open" with a party or cross-line effect. Users complain of delays in repairing phones and difficulties in getting directory inquiries though these problems are certainly not unique to Ireland.

At the end of the 1970s the Irish Government realised that the country's telephone service had to change. Here was a small country trying to attract foreign companies but offering them an antiquated means of communicating with the outside world. It was suitable, just, for a rural economy but not much good for industry.

This unsatisfactory position was underlined when two long strikes by workers in the country's postal and telephone services brought the system to the point of collapse.

A government-appointed review recommended in 1979 that postal and telecommunications services should be split and the latter removed from the civil service. The process of change was eventually completed on January 1, 1984 when Telecom Eireann was formed as a state-owned but independent company with no access to government subsidies.

While all this was going on, the big investment programme which had also been recommended by the review board was in motion. Shortly after the turn of the decade, Ericsson of Sweden and the French company, CIT Alcatel, won the contracts for installing digital exchanges.

Since 1984 this has gone hand in hand with a programme to reduce Telecom's workforce which stood at over 18,000 when the company was set up and is now just below 15,000. A voluntary severance scheme is still open.

One of Telecom's weaknesses has been finance. About a half of its investment programme was funded by foreign loans and interest charges have been running at about I£130m a year. A row about how this charge should be covered resulted in the departure of Mr Tom Byrnes as Telecom's chief executive in 1985. This issue appears to have been resolved by an agreement to do some creative accounting.

Telecom seems to be on course for its target of breaking even in 1987-88. In the 15 months to April 1985, Telecom's loss was I£82.7m, followed by a loss of I£24.3m in the following year and one of I£8.2m for the 12 months to April this year. This figure is after interest charges and allowing for currency movements. Operating profit for last year was I£117m, up by more than a half on the previous 12 months.

Growth rates appear to be greater than Telecom was banking on to hit its break-even target. Actual traffic increased by between and 8 and 10 per cent a year for the past two years. Turnover to April 1987 was I£516m, compared with I£467m the previous year. Assets now stand at I£1.38bn.

Some 75,000 lines were installed last year and customer orders were reduced to 22,000, the lowest level for many years, says Telecom. The household penetration rate reached 54 per cent.

Ireland has a fixed local call rate of 11.17p, irrespective of duration. From payphones, however, the call rate is 20p with a five-minute limit from the new style payphones.

Telecom's monopoly role seems pretty secure. Apart from its exclusive control of the internal network it is the only authority with a licence to operate international services. It recently inaugurated a new satellite link for business users to the US. Modems, teleprinters and PABXs have been deregulated.

One thing Telecom does seem proud of is its Telepages operation which, it says, is unique in Europe. Through this, people can access direct into the data base of Golden Pages, the Irish version of the UK's Yellow Pages.

Nick Garnett

Austria

An improving image

REGULATION DOES not mean inefficiency and abuse of a monopoly. This is the message now being promoted by the Austrian Postal and Telegraph Administration (PTT), the one and only state-run organisation which looks after the country's expanding telecommunications network.

Aware that several of the telecommunications systems in Europe are under criticism for being over-regulated, inflexible and adverse to any degree of privatisation, the Austrian PTT is looking at ways to make regulation a "decent and flexible instrument" which can satisfy the growing demands of the Austrian consumer.

One of the people behind improving the image of the telecommunications industry is Dr Josef Sindelka, general director of the PTT. From a population of over 7m, Dr Sindelka has to take care of 2,818,437 telephone subscribers and 26,000 telex subscribers. Use by Austrians of the cordless telephone has increased significantly over the past two years. More than 25,000 have ready been installed, with the PTT keeping a very strict control over the phone charges.

These figures are meaningless, however without considering the kind of services available to the Austrian consumer. Dr Sindelka says for example, that the waiting list for a telephone has been reduced from two months to under three weeks - "of course if there isn't a line already installed, it will take up to a month". The pressed journalist working here is a little sceptical. One colleague has been waiting for up to two months for a phone.

Just as much as the journalists and computer buffs are very critical of the availability of modems and back up for their systems. A few years ago, it would have been impossible to find a modem in Austria. It would have been ever more difficult to find a PTT engineer to fit it to the telephone.

Things are changing slowly. The PTT today recognises 228 types of modem. However, under Austria's telecommunications regulations, only PTT engineers can fit modems to the telephone system.

"And why not?" says Dr Sindelka, "We don't install the modem itself. We simply connect it to the phone. PTT's only function is to get the interpart of the public network the private equipment. That is all".

The costs for doing this simple piece of work is high. Even more frustrating, and this is not the PTT's fault, is the unavailability in Austria of simple electronic spare parts. Cables for printers, for instance are in short supply.

Dr Sindelka doesn't see why the role of the PTT in linking private equipment with the public network should upset people.

"What we want from this system is quality and flexibility," he says. The quality is improving. Under a new investment programme, the PTT has now embarked on an ambitious plan to modernise the country's telecommunications system. Any visitor to Vienna will note immediately how many telephone numbers have been changed. "That's because we are moving over to a fully electronic digital telephone system," explains Dr Sindelka.

Here, PTT's flexibility shines brighter than some of its European counterparts. The work, which consists of installing two new exchanges in Vienna with 10,000 lines each and eventually the whole of Austria at a cost of Sch8bn (US$ 620m), is being carried out not by PTT but by two sets of contractors: Siemens Austria and ITT Austria both working under licence from Siemens Munich.

The second contractor combines Kapsch and Schrack, two small Austrian companies who are developing a system made under licence from Northern Telecom Canada. PTT has managed to bring the two groups together under one joint company, Austrian Telecommunications GmbH.

The two groups work under the system of contracts awarded by PTT on the basis of competition. The new company, however, must conform to PTT's specifications. Under this scheme, the PTT has choice and quality in terms of equipment and skills combined with domestic development with foreign co-operation.

In the meantime, PTT has set up a telecommunications development company, (OFEC) which supervises the installation of the digital phone system. The PTT holds a 51 per cent in OFEC, with Kapsch, Schrack, Siemens Austria and ITT Austria each holding equal shares of the remaining 49 per cent.

As work continues on the Vienna exchanges, PTT has its sights on building new exchanges in Graz and Linz, designed and constructed along the relatively flexible lines of the Vienna system.

The costs all add up. Installation of new exchanges, the completion of the new East-West central radio link and refurbishment of buildings and a modernisation programme will cost the PTT Sch 11bn.

Its gross receipts however have increased by 6 per cent in 1986 and its heavy charges for the consumer, which Dr Sindelka says are competitive when compared to other European phone charges, ensure adequate cash flow for forward planning.

Judy Dempsey

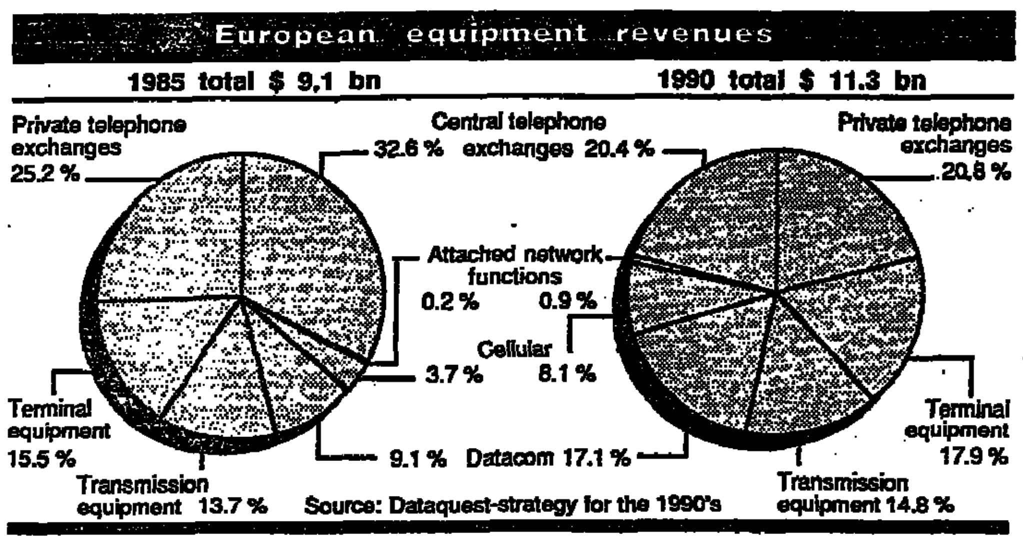
New 'Call Manager' system

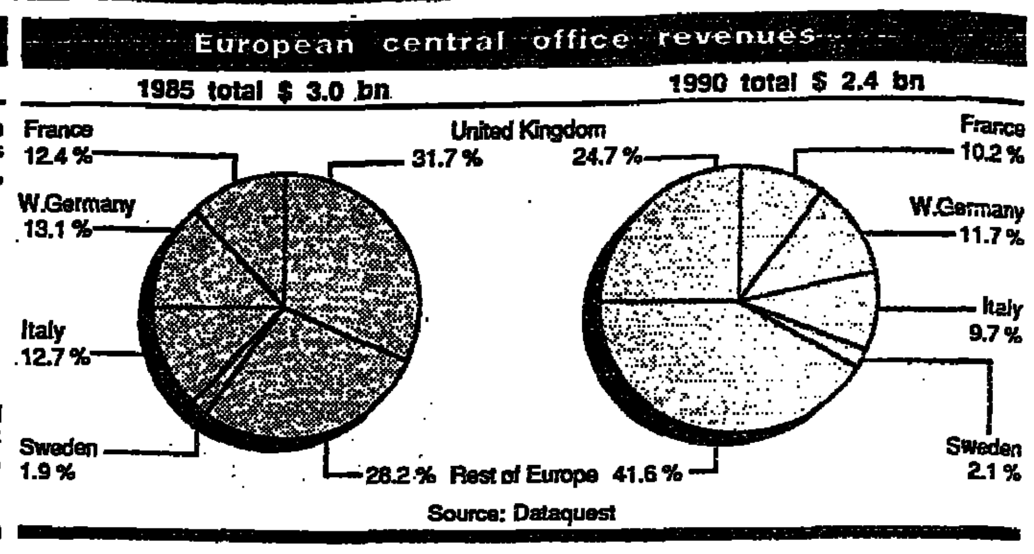
THE SWISS pavilion at Telecom 87 is set to become the European launch pad for the microcomputer-based "Call Manager" system, shown here, the latest development from ASL (Automatic Switching), the UK manufacturer of call-management systems.

A member of the newly-formed Swiss Ascom group, ASL supplies telephone call-logging systems and equipment to British Telecom, private network operators and PABX-users.

Call Manager's features include client-billing for recharging calls made on behalf of clients, plus traffic flow analysis which details the peaks and troughs in a company's telephone traffic.

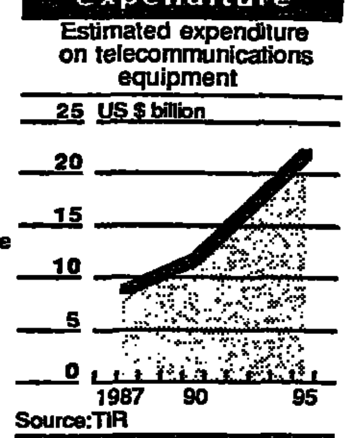
The Call Manager system can be interfaced with other business software - for example, a data-based management package such as Lotus 1-2-3 or word processing - allowing the system to double as an office workstation. ASL line scanning equipment may also be incorporated into the system for monitoring telephone traffic on private wires and direct exchange lines.





Spin-offs from defence

Many innovations in telecommunications have been developed originally for the defence sector.
Pictured above is a Ptarmigan mobile subscriber unit, mounted in the back of a Land Rover.
Ptarmigan was designed for the British Army in Germany to provide secure facilities for mobile and isolated subscribers.
Multiple role systems, which provide an integrated range of intelligent communication products, based on Eurocom standards, have also been developed from this equipment.



Soviet spending on equipment could top $20bn a year by 1995

RUSSIA is aiming at a big expansion in its telecommunications network over the next few years, and will probably increase its imports from the West.

These are the conclusions of a report by Telecommunications Industry Research, which has looked at the Russian plans in some detail. TIR's forecasts are based upon some big imponderable items, notably that the Russians can achieve their aims, and that certain high technology products will be freed from the restrictions on exports pushed through under the agreed Western formula on sales to the Eastern bloc. But if these events come to pass, the TIR report suggests that:

■ The market could grow from around $9.6bn for telecommunications equipment this year to $13.4bn in 1990 and $23.6bn in 1995.

■ Telephone set expenditure should grow from $451m in 1986 to $1.1bn in 1990.

■ The number of telephones in use will jump from 30m last year to 48m by 1990 and 100m by the year 2000.

■ Eighty per cent of Russian homes will have a telephone by the year 2000.

■ Almost 44m lines will be digitalised by 1995.

■ There could also be a hefty expansion and renewal of the cable network, with fibre optics being introduced to the main cities. Some estimates put total cable demand at 600,000 kilometres a year.

■ Imports in 1990 are forecast to rise to 37 per cent of total demand, or almost $5bn.

■ The bulk of these imports will come from other Eastern bloc countries and some developing nations. But exports from the West could rise to more than $350m by 1990 from $37m in 1984.

Most of Russia's imports at present come from the Eastern bloc and are estimated to be worth about $1bn. From the West, the main exporter is Finland, which has strong trading links with Russia, and which has developed a range of smaller digital exchanges which do not fall foul of the West's prohibitions on high technology exports to Russia. Its exports in 1984 were estimated at $25m.

The TIR assessment of the likely growth in imports is based on the mismatch between demand and supply if Russia's plans go to order: TIR believes, for example, that it is unlikely that the domestic industry will be able to produce more than a third of the target figure for digital lines.

At the same time, the Russians have indicated that they want to do increased trade with the West, and have indicated a determination to push ahead with the modernisation programme by establishing the public telephone authority as an autonomous purchasing authority.

Terry Dodsworth

Poland

One of Europe's poorest systems

MOST OF Poland's new high rise housing estates are a telecommunications wasteland, relieved only by the occasional payphone.

But there is one block of flats in southern Warsaw, the capital, where each resident keeps his receiver at home. Whenever anyone needs to telephone, he takes his instrument down into the front hall and switches into a line left after vandals long ago destroyed the original payphone.

No-one from the Post Office, which has a telecommunications monopoly, has ever been to repair the damage, even if it was reported. The residents are certainly not making a fuss now. with free access to the phone system at home and, wherever direct dialling applies, abroad.

The situation is not surprising with the country's under- capitalised phone system which, at 10.52 telephones per 1,000 population (6.64 in the countryside), is one of the lowest indicators in Europe. Overall, Poland has 280,300 lines, nine-tenths of which are automatic. The figures are, however, not that far behind Hungary, which has 13 telephones per 1,000 of the population.

Waiting times for the installation of a new phone are, however, dramatic, with an average of 13 years. There were 130,000 new connections in 1985 and the waiting list in that year stretched to 1.7m. Plans for expansion are modest, to say the least, and the 160,000 yearly connection target for the mid-1990s means that waiting times will have stretched to over 20 years by then.

As a result, many Poles use the phones at work for their private calls, including calls abroad. There are direct connections to, among others, France and the UK, but not to West Germany and the US. Calls to those countries can take hours before the operator makes a connection.

The quality of the service at home is also poor, with 15 complaints per 100 customers per month, and the number of faults per 100 customers per month is just over 10.

There are 32,131 telex lines, of which 29,606 are connected to subscribers and the rest in post offices.

So far, the Polish authorities seem to have remained deaf to arguments that expanded telecommunications at home can improve efficiency and conserve energy and that they are vital if foreign trade is to be successful.

Investment plans, therefore, remain modest.

At the same time, the country's telecommunications manufacturing industry in the Telecom grouping has some digital electronic capacity licensed from CIT-Alcatel. While the present technological level is not the most modern, the World Bank estimates that it is quite capable of supporting an expansion of the domestic network.

Restrictions on imports of the latest Western technology, imposed by the Cocom committee, are a problem but experts maintain that, even without such purchases, if the Government decided to spend more money, the situation could be improved markedly.

Christopher Bobinski
Warsaw

Portugal

Major effort to update network

A SPLENDID palace in Lisbon houses the headquarters of Portugal's Post Office and Telephone Corporation, CTT/TLP. It was built in the 16th century.

Disgruntled telephone subscribers occasionally suspect their telephone system was built about the same time. Saturated exchanges, wrong numbers, crossed lines, descents into twilight zones where you dial a London office and get Britain's speaking clock, promise adventure when you pick up your sturdy Bakelite Portuguese handset.

But times are changing. The CTT/TLP is investing Es50bn ($250m) a year until 1989 so as to whip services, equipment, staff and management into ultra-modern shape and steer telecommunications towards an integrated systems data network.

The chairman of CTT/TLP is Mr Jose Viana Baptista, former Minister of Public Works and president of the Foreign Investment Institute. He takes visible pride in describing the tough task he faces of shoving Portuguese posts and telecommunications forward 30 years in the space of seven.

The company is Portugal's biggest employer: the CTT has 30,000 employees, the TLP 12,000. The latter was the Anglo-Portuguese Telephone Company until its 99-year concession ran out and it was absorbed by the state: It runs the Lisbon and Oporto telephones; the CTT runs the telephones elsewhere.

The CTT/TLP nowadays is that rarity among Portuguese state-run enterprises: virtually self-financing, with a 1986 aggregate turnover of Es 135bn ($945m). Corporate impact on the economy is such that in every Es 1m of income generated nationally, the CTT/TLP accounts for Es 30,000; in every Es 1m invested nationally, the CTT/TLP is responsible for Es 42,000 and it employs 10 in every 1,000 members of the labour force.

On the industrial side parts of telecommunications that have been a monopoly or sheltered until now may be diversified. The tremendous growth in demand for telephones - 45 per cent growth a year in Lisbon and Oporto where the ratio of subscribers at 24 per 1,000 is nearing European averages - calls for changes in manufacturing, purchasing outlets and installation of telephones. In Mr Viana Baptista's view, competition is the magic formula.

Next year Portugal will launch mobile car phones, videotext and off-site paging, first in the Lisbon area, then Oporto and the Algarve and, finally, nationside.

Work is proceding at speed on new digital switching exchanges, replacing the overloaded old automatic exchanges in Lisbon and the suburbs. The first three digital exchanges are due to come into service soon.

Digitalisation, for which equipment is supplied by two groups - Siemens with its Portuguese partner Centrel and ITT's German plant with ITT's Portuguese subsidiary Standard Electrica - is the linchpin of Mr Viana Baptista's three-point revolution:

■ A qualitative leap into an integrated digital system where acoustic, optical or data signals can be received and transmitted harmoniously on telephones, home computers, telexes or other equipment;

■ A dramatic increase of material available to the public, which means shorter waiting lists;

■ A as a corollary of increased quantity and quality, lower costs.

Portuguese telecommunications prices are reasonable by European standards, but incomes are low. The CTT/TLP wants to spread its net wider for suppliers of equipment in order to reduce costs.

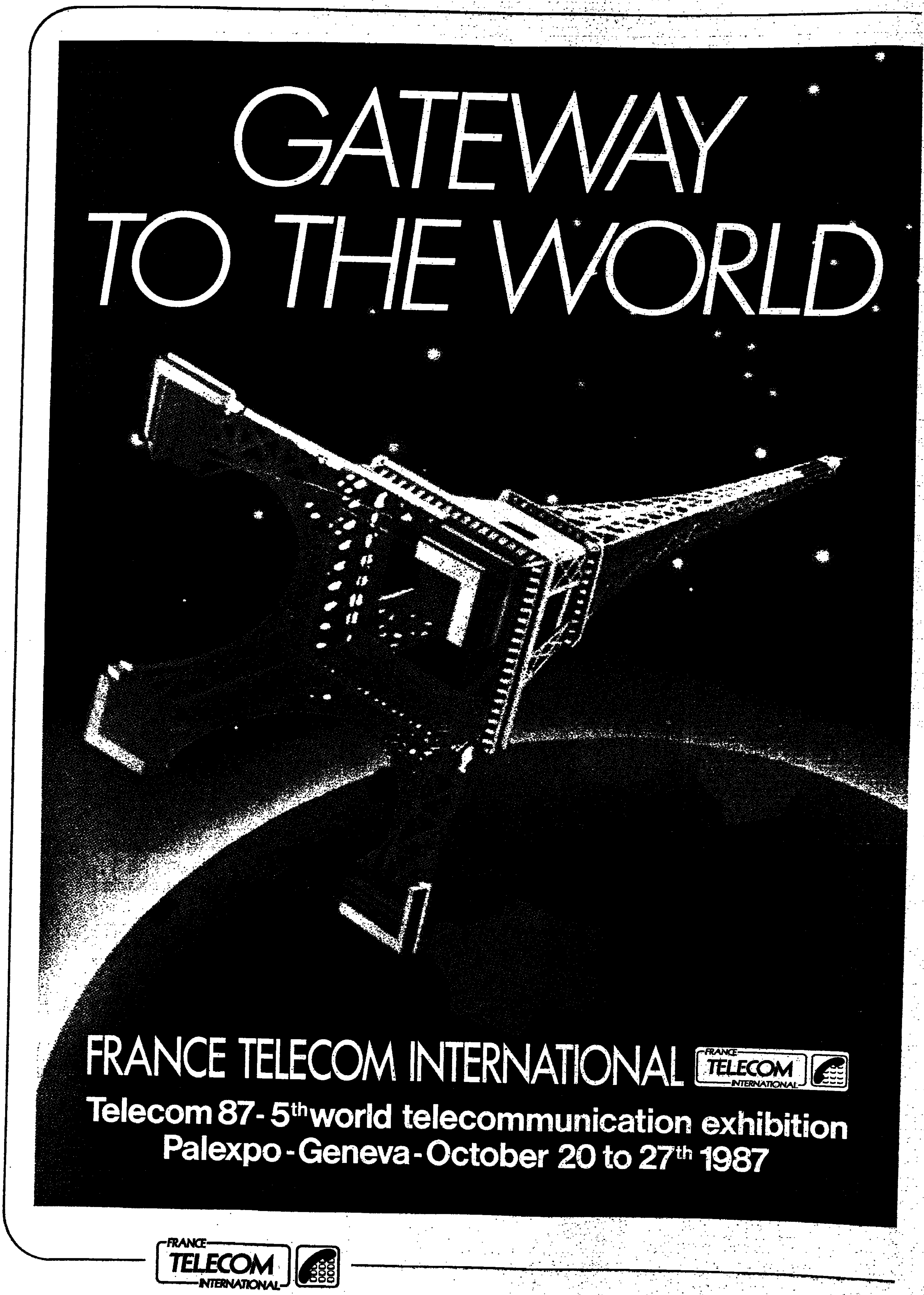
Long a sheltered industry, Portuguese telecommunications equipment manufacturerers worked on exclusive concessions. No competition meant no hurry: subscribers often had to wait years before they got their telephones.

Now, the CTT/TLP wants three-year contracts that can be rolled over for another two years if supplies of telephones, cables and optical fibres are satisfactory.

At the same time, it wants to liberalise telephone sales: if someone wants a purple plastic phone and a neighbourhood freelance dealer has such a treasure on offer, he should be free to satisfy his taste, but must rent the line from the telephone company.

If he wants a free-lancer to instal telephone wiring when he builds his house, this should also be possible according to Mr Viana Baptista.

Diana Smith
Lisbon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The US industry

Cost equations get trickier

JUST WHEN US telecommunications users thought it was safe to sit back and enjoy lower costs brought by deregulation, their life has become a good deal more complex and uncertain.

Long-distance tariffs have fallen 20 per cent since the break-up of American Telephone and Telegraph's Bell system in 1984, according to an index compiled by McGraw-Hill, and they could fall further. Moreover, heavy spending on equipment by new carriers has made the quality of their lines comparable to AT&T's.

But the cost equations are getting trickier as federal and some state governments become increasingly active in policy areas. Washington, for example, is trying to find ways to squeeze more tax revenue from some forms of telecommunications.

Some states have pushed energetically toward further deregulation of telecommunications within their boundaries, while others have been more cautious. Typical of the more active role some states are taking, New York has reclassified telecommunications equipment as real property and begun taxing it like a building. Thus, a user might find it far more cost-effective to set up new equipment across the river in New Jersey.

"Communications managers have to become something of policy analysts," says Mr Kenneth Phillips, chairman of the Committee of Corporate Telecommunications Users. The New York-based organisation represents 30 of the largest users in the country. "Users have to be much more sophisticated in identifying the long-term implications of new policies."

One of the most contentious issues at present is a proposal from Washington that telephone companies levy an access charge of up to $5 an hour on users of value added networks. VANs were originally exempted from the charges when the Bell system was broken up in 1984 because information suppliers were struggling to get them off the ground. "Many, though, are still fledgling operations and access charges would kill them off," Mr Phillips says.

One major regulatory question Washington settled last month was whether the Baby Bells, the seven regional telephone companies spun off from AT&T in 1984, should be able to expand their services. They were denied their wish to offer long-distance communications and to manufacture equipment, two key areas reserved for their former parent under the break-up agreement.

The regionals were allowed, however, to offer value added products, such as voice storage and answering services, on their local networks. The seven, which have capitalised aggressively on their opportunities in their short lives to date, expressed great disappointment.

AT&T, however, was delighted. It has given up less than 20 per cent of the long distance market to competitors since its break-up but it did not relish the prospect of taking on the Baby Bells as well in a fiercely competitive field. AT&T has driven down its long-distance tariffs to the point that they are close to those of MCI and US Sprint, its two major competitors.

The competition has accelerated the development of services. A few years ago, full networks for advanced voice and data transmission through fibre optics and digital switching did not seem likely until the 1990s. Now it looks as though the major carriers will have completed the task next year.

But the heavy capital spending at a time of intense price competition has run up huge losses for the new carriers. MCI lost $448m last year and Sprint could lose more than $500m this year. Both companies have fought to contain costs and are credited with improving their customer services. They have also eased up on the drive for market share. Customers also say that AT&T has sharpened up its wits and performance in the face of competition. But some fear it will adopt predatory pricing strategies to win back customers and then rates would rise again if AT&T sufficiently weakened its competitors.

This may be too pessimistic a view, however. The Federal Communications Commission, the industry's watchdog agency in Washington, has proposed changing the way it controls AT&T prices and profits. Currently, the main mechanism is the rate of return on its capital investment.

It is argued that this minimises AT&T's incentive to cut costs, innovate and promote competition. The proposed alternative is a cap on prices which would only allow them to rise at a rate slower, for example, than that of inflation.

It looks likely that caps would be coupled with floors and other controls on AT&T's prices. "These moves should reduce AT&T's ability to price predatorially and should reduce its pricing flexibility, mitigating many of the concerns about AT&T's ability to price against MCI aggressively," says Mr Robert Morris, a securities analyst with Prudential-Bache.

The US financial sector leads the way in new business applications for the most advanced telecommunication systems. Pictured above is the foreign exchange section of the main trading floor of Salomon Brothers, New York.

Although some people on Wall Street are warming to MCI's stock as it tackles its problems, the general feeling about Sprint is far more cautious. Its parents, GTE and United Telecommunications, took hefty write-offs from the joint venture earlier this year and replaced Mr Charles Skibo, Sprint's president, with Mr Robert Snedaker, formerly chief operating officer of United Telecommunications. The change of chief executive is said to indicate deep operating problems.

Sprint has enjoyed a huge jump in traffic on its new fibre optics network – from 30 per cent of the company's total traffic at the end of the first quarter to 69 per cent at the end of the second – but operational losses are still heavy. Given the financial pressures on the carriers and a trend for local operating companies to squeeze more from existing equipment, capital spending has been on a plateau of around $25bn a year since 1985, according to research by Telephony, a leading industry publication.

Roderick Oram
New York

Spain

Divorce with a difference

THE TELECOMMUNICATIONS industry in Spain will remember 1987 as the year the Government unveiled its long-awaited legislation regulating the sector, the Ley de Ordenacion de Telecomunicaciones, which is known as LOT.

In principle, the LOT deregulates the industry. So where does that leave the faithful spouse of Spanish telecommunications? Will Telefonica, the evergreen holder of the monopoly, be spurned as the public turns to attractive new talents?

Telefonica, which for better or for worse has served Spain for 60 years, and its host of stockholders may rest assured. In the first place, the state, which fully intends to continue owning the major chunk of the monopoly's assets, will give the company a more than handsome living allowance. Secondly, Telefonica will not be looking back at what it leaves behind. Instead, the company has long been looking forward to its new role as the LOT's unquestioned No 1 wife.

The new legislation will in fact maintain Telefonica as the exclusive carrier of Spain's telecommunications. It is only the modems and equipment side of the business which will be liberalised. The approval of terminals and other props will, under LOT, be taken from Telefonica and come under the responsibility of the telecommunications branch of the Transport Ministry.

Deregulation, Spanish-style, has been on the drawing board for well over three years, giving Telefonica ample time to adjust. And, since the Socialist Government came to power in 1982, the national telephone company has been given every encouragement to exercise a leadership role in the development of national high-tech.

Such has been the high profile exposure of Telefonica in the years preceding the LOT that the shape of telecommunications to come in Spain is better illustrated by the plans and expectations of the national telephone company as it approaches the 1990s than by the actual guidelines of the deregulation law.

Telefonica's ambitions are immediately obvious if its recent fund-raising moves are examined. The company is in the midst of a huge financing programme that involves bonds and commercial paper issues but attention has very recently been centred on a rights issue that could raise Pta 75bn ($615m).

This latest move comes on the heels of a share offering on Wall Street that raised $375m and which amounted to a breakthrough for a Spanish company. The assault on Wall Street was the final round of a carefully planned strategy and came after the company had successfully tested the waters of the London, Paris, Frankfurt and Tokyo money markets.

Telefonica's exuberant and energetic chairman, Mr Luis Solana, was not for nothing a banker and a stockbroker before he was appointed to the job in 1982. He is also a lifelong Socialist and a former MP, as well as a political prisoner in the Franco years. The latter qualifications, added to the fact that he is the elder brother of Mr Javier Solana, the influential Minister of Culture, puts him on the inside track of Cabinet policy.

The Wall Street offering was underwritten by some 60 institutions, headed by Goldman Sachs, Merrill Lynch and Salomon Brothers. Previously Standard and Poors had awarded Telefonica an A1-plus rating and Moody's a P1 for short-term financing and the dual ratings meant that Telefonica was the sole Spanish institution to have achieved an equivalent status to the one afforded to the Kingdom of Spain.

Telefonica is the chief surfboarder riding the crest of Spain's dramatic growth and expansion. Last year demand grew by 30 per cent and this year Telefonica, which had thought the demand curve would even out, was caught unawares when indicators showed it was growing by a further 20 per cent.

The realisation forced the company back on to the drawing board. At the end of 1986 Telefonica had approved a Pta 1,300bn investment programme to cover the company through to 1990. This was an 80 per cent increase on its previous four-year investment plan and upped the outlay by Pta 500bn to a grand total of Pta 1,800bn.

In part, the urgent call on Telefonica resources is the consequence of the excitement generated in Spain, particularly in Barcelona and Seville, by prospects for 1992, when Spain's second largest city will stage the Summer Olympic Games. Also that year, Seville, Spain's third largest city, will be host to an ambitious world fair that will commemorate the 500th anniversary of Columbus' voyage of discovery to the New World.

The 1992 fever has fuelled Telefonica's ambitions in other high-tech fields. A priority is the installation of a videotex service, which the company is to market as Ibertex, that will allow telematic access to data banks. The aim is to have 500,000 subscribers by 1992.

It is precisely in such areas that the world outside Telefonica can hope to score as the LOT deregulation comes on line. Even if Telefonica keeps the lion's share of the Spanish market, the crumbs from the table will be substantial. Telephone purchases, for example, are running at 50 per cent up this year on the 1986 figure and estimates, which may well be conservative, speak of a further 30 per cent hike next year.

In the meantime, Telefonica continues to live up to its reputation as the market maker in the Spanish Stock Exchange and as the weather-vane for bold innovation among Spanish companies.

In straight telecommunications, Telefonica brought about something of a coup by unveiling plans to instal a telephone factory in the Urals to manufacture sets called Tarsis that have been designed by Telefonica with the Soviet climate in mind. The initial investment for the project will be $3m but the final amount will be considerably larger and Telefonica will have a 49 per cent stake in the venture.

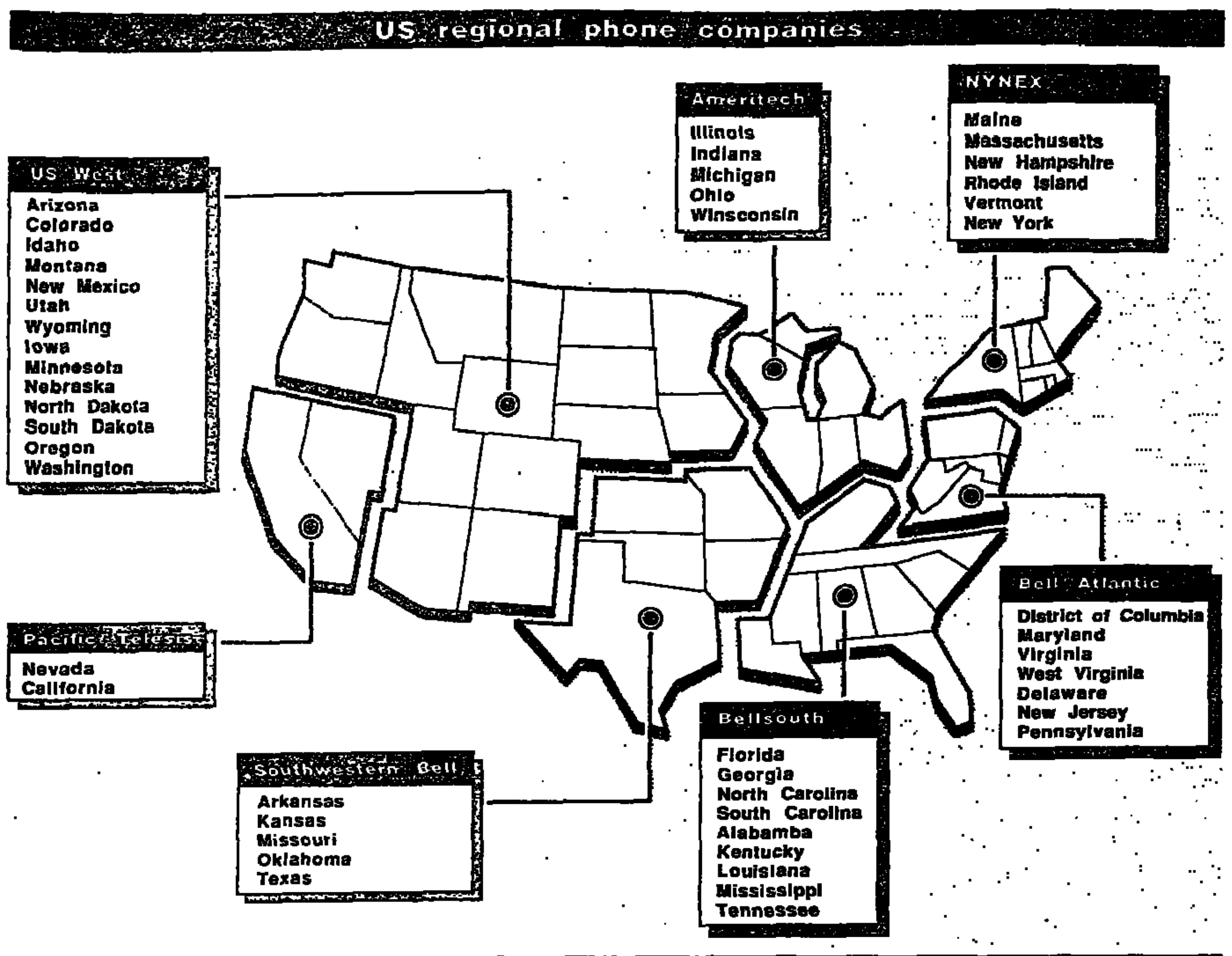
At the other pole of the ideological world Telefonica also announced this year an agreement with the California-based Electronic Data Systems that involves a joint venture aimed, in part, at exporting Spanish-technology data transmission systems.

For Telefonica the chief objective of the deal is to push the marketing of the packet-switching system that it has developed and already successfully exported to Canada and Argentina. Initially the venture, which is provisionally named Telecommunications Data Services, will seek to design and distribute transmission networks and also cater for the worldwide communications needs of General Motors.

With such a horizon, the real Lot's wife would never have turned her head.

Tom Burns
Madrid

US regional phone companies



Long distance services in the US

Problems on prices and costs

IT IS hard to know if the US long-distance telecommunications market has evolved in the way the regulators envisaged when the old Bell telephone system was broken up four years ago. But it can hardly have changed in the way that the new competitors to American Telephone and Telegraph were hoping. They are currently struggling to make any headway at all.

The problem they face is the straightforward issue of prices and costs. AT&T, confirmed in the Bell divestment as principally a long-distance carrier, has much the lowest cost of operation. This is partly because the cost of long-distance traffic is directly related to volume, and AT&T, with its massive installed base, can keep its lines busy more easily. The other operators cannot hope to attract this scale of business because they do not have equally large networks.

AT&T is also better able to attract business interest because it already has a sophisticated equipment infrastructure which allows it to offer specialised services - very high speed data transfer and so on. Indeed, initially, the group's two main competitors, MCI and Sprint, established themselves by pursuing the private residential market, mainly because they did not have the ability to offer the wide range of services available to the corporate sector from AT&T.

Finally, the new pricing regime that has followed deregulation and the Bell system break-up has had the paradoxical effect of putting more pressure on the new competitors than on AT&T.

This is because AT&T is still being forced by the authorities to reduce its prices under the regulatory formula; to maintain their pricing advantage, the smaller operators are therefore being compelled to cut prices still further without having a cost structure that will absorb these reductions.

The financial impact of this new, post-deregulation environment has become painfully apparent in the tale of woe emerging from the new companies. Last year, Sprint lost $800m, while MCI ran up losses of $448m. Both companies have had heavy write-offs in recent years, and MCI cut its workforce in 1986 by 16 per cent to 13,700.

It still remains to be seen whether there is sufficient demand for three genuine long-distance carriers in the US: there has already been one large-scale rationalisation with the merger of GTE's Sprint division and United Telecommunications' long distance interests - a deal aimed at reducing the cost of expansion for both parent companies.

Many analysts believe that the the market is sufficiently large to accommodate the three, and that establishing the two newcomers on a sound financial and commercial base is only a question of time: they both have to set up larger networks, which involve heavy up-front expenditure on fibre optic cabling.

Indeed, MCI, which initially saw fibre optics as the high-cost option, preferring to use a mix of microwave links and traditional cabling, seems now to be coming round to the view that the market will increasingly demand the quality inherent in fibre optics.

From the demand point of view, estimates suggest that plenty of opportunities remain for enterprising new services. Northern Business Information (NBI), the New York market research company, believes that US traffic growth over the next four years will amount to an average of 13 per cent, with both MCI and Sprint achieving revenue gains of a little over 20 per cent.

This implies that AT&T's market share, currently standing at 75 per cent according to some estimates, will fall steadily: NBI believes it could be 65 per cent by the middle of the next decade, giving scope to both MCI (currently at 9 per cent), and Sprint (5.5 per cent).

Other long-distance carriers, which offer services on special routes, sometimes through leased lines and sometimes through their own, should also increase their penetration from the current level of 10 per cent.

Nevertheless, NBI expects that AT&T will maintain its enormously strong grip on the business market, and that its main loss of revenues will come in the less lucrative residential market. AT&T is certainly gearing itself up to attract more business in this sector: in particular, it is bidding for the high-speed data business through the installation of the increasingly sophisticated electronics that are now improving the efficiency of fibre optics.

Terry Dodsworth

Three generations of telecommunication services

Generation	Telecommunication system required	Services	Availability
● First	Existing analogue and narrow-band digital telecommunications networks	– Telephony – Telex – Slow-speed data services (up to 9.6 Kbps) – Teletex – Videotex	– Traditional or in process of introduction
● Second	Digital upgrading of existing telecommunications networks (e.g. ISDN)	– High-speed data services (n. 64 kbps) – Integrated services (digital voice, data, text, facsimile) – Electronic mail – Audio-graphic teleconferencing	– After introduction of digital switching and digital local loops in basic networks
● Third	Broadband transmission and switching for at least 2 Mbps channel (e.g. fibre optics, satellite-based, microwave)	– Video-telephone – Video-conferencing – Very-high-speed data communications – Bulk document transmission – Two-way CATV	– Satellite-based system for trial phase – Large-scale fibre-optics system in early conceptual stage

Sources: University of Sussex; Arthur D. Little.

Office video link: this new Rembrandt desktop video-station from Compression Labs is claimed to be the first personal computer-based system allowing colour video-conferencing between remote stations for face-to-face meetings in private offices.

The Bell regional telephone companies

Seeking to break the shackles

THE SEVEN Bell regional telephone holding companies, spun off from American Telephone & Telegraph in 1984, suffered a setback last month in their campaign to snap some key chains in the regulatory shackles which still grip them.

Judge Harold Greene, in what was widely regarded as the most important judicial decision in US telecommunications since the epic-making break-up of the Bell system, squashed some of the expansionary ambitions held by the regional Bells. He continued to prohibit them from manufacturing telecommunications equipment or from entering the long-distance telephone market, which is still dominated by AT&T.

The Bells, each about the size of the larger European telephone operators, did not care for the judgment. The reaction of Mr Richard Yarbrough, a vice-president of Georgia-based BellSouth, was typical: "There is a lot of capability in the southern companies and the public was precluded from the possibility of new services being brought on-line quickly."

However, the judge, who continues to oversee the decree which broke up AT&T, did open the door to the Bells a little. He allowed them to enter the fast-growing business information market by transmitting data. And he scrapped the rule that the Bells had to seek the court's approval before entering businesses outside telecommunications.

Some Wall Street analysts welcomed the relaxation on transmitting data, arguing that anything which reduced the Bells' dependence on simple voice traffic was positive. However, telecommunications specialists are not so sure.

Mr Francis McInerney, an analyst with Northern Business Information, a New York-based telecoms market-research consultancy, argues that the key feature of the judgment was the refusal of Judge Greene to allow the Bells to develop or own the information content of the value added services they can now transmit over their lines.

"The money is not in pumping commodity bits, but in adding value to those bits," Mr McInerney says.

He adds that the fast-growing market for value added services will now be dominated by computer companies, particularly IBM. "The regional holding companies run only one part of the network and it's becoming the least important part."

Of the three areas which Judge Greene was considering for deregulation, the Bells appeared most interested in that of value added services.

Winning permission to enter the long-distance market, which still has not settled down, never seemed very likely to many observers. When it came to manufacturing, most Bells appeared to have fairly limited ambitions, such as getting involved in the development stage of equipment or being able to enter niche markets.

"We want to be able to do it, not because we would intend to run out and become a world-wide switch manufacturer, but because we could sit down at an early stage with a manufacturer and work through specifics," as Mr Bill Burns, vice-chairman of Nynex, the New York-based holding company, put it.

By contrast, the pulses of senior Bell executives quickened markedly at the thought of being able to enter the data markets. "Information services offer the most immediate opportunities to us. The network is there waiting," explained Mr Zane Barnes, chairman of Southwestern Bell.

Moving into information services would have fitted well into the basic approach to diversification articulated by MrSidney Boren, corporate planning vice-president at BellSouth: "After a lot of study, we concluded that our future would be best if we stayed close to the telecommunications business."

In boosting their non-regulated business, most of the Bells have been cautious about tackling areas too far removed from their core operations. For example, many have built up their yellow pages or their real estate activities, but these are businesses they already knew about.

Most of their large acquisitions, such as Southwestern Bell's $1.6bn purchase of the Metromedia mobile communications business, have also involved the Bells sticking close to their knitting.

A similar point applies to their first tenative moves into the international arena. BellSouth has bought into mobile communications in the UK and Australia. Southwestern Bell has launched a company to sell telecommunications equipment in Britain. Bell Atlantic wants to become more involved in consultancy computer maintenance in Europe.

Perhaps the boldest departures made by the Bells has been to move closer to the computer business. Nynex has acquired a chain of high street computer centres from IBM as well as several software concerns, including BIS, a UK-based group specialising in financial software. Bell Atlantic has moved into computer maintenance.

But even in these areas there are synergies with the Bells' traditional concerns. "Maintaining computers isn't that different from maintaining complex switching equipment," as MrThomas Bolger, Bell Atlantic's chairman, explains.

Each of the regional Bell companies is about the size of the larger European operators. For many of them, cost-cutting now has a new importance.

While the Bells have been cautious in diversifying, much of their energy has been directed to sorting out their core business. Most have had to create a management culture out of the ashes of the AT&T empire. They have had to build up management teams charged with areas of responsibility, such as purchasing and relations with the financial community, which had previously been handled by AT&T.

For many, cost cutting has assumed new importance as they have begun to shape up for the new era post-divestiture. The announcement by Bell Atlantic last month that it was offering retirement incentives to roughly a quarter of its 23,000 managers is just the latest example of this.

The Bells' desire to encourage new switch suppliers to challenge the duopoly of AT&T and Northern Telecom of Canada is another instance of their tougher approach. In the next year, it should become clear whether this really will mean a stream of large orders for companies such as Ericsson of Sweden, Siemens of West Germany and Stromberg-Carlson, the Florida-based switch subsidiary of Plessey of the UK - or whether the Bells are merely flirting with third suppliers in order to keep up the pressure on AT&T and Northern Telecom.

Yet perhaps the Bells' biggest worry at the time of divestiture was bypass - the notion that big companies would increasingly send their traffic along private networks, thereby missing out the regional Bells altogether.

Most observers believe, however, that bypass has not proved the threat that the Bells feared, although the position varies from region to region and is still highly fluid. The Bells were quick to press local regulators to allow them to restructure their tariffs so as to reduce the attractions of bypass.

Moreover, they concentrated their customer service and technological resources on big corporations, precisely those most likely to be tempted by bypass. "Analysts failed to understand that we had enormous resources to counter the threat of bypass in terms of the resources we could apply," argues Mr Tony Parra, Nynex's head of investor relations.

This is just one of many examples of the intelligent response by the Bells to the new regime put in place since 1984. However, most recognise that they must continue to build up their non-regulated businesses, since they offer higher growth potential than their core telephone operations, which are subject to the vagaries of swings in their local economies. Hence their disappointment at Judge Greene's latest ruling.

David Thomas

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The lure of the $3bn US market

Foreign invaders face uphill task

JAPANESE and European telecommunications equipment manufacturers, lured by the potential opportunities in the deregulated US telecommunications market, are mounting a challenge to established North American leaders, AT&T and Northern Telecom.

The "foreign" challenge is especially strong in the $3bn US market for telephone company central office exchangeequipment. While AT&T and Northern Telecom together hold a 90 per cent share of this key telecommunications equipment sector in the US, newcomers including Stromberg-Carlson, owned by Britain's Plessey, Ericsson of Sweden, Siemens of West Germany and NEC and Fujitsu of Japan are making their presence felt.

According to industry analysts, US telephone companies, chiefly the Regional Bell Operating Companies (RBOCs) are encouraging the emergence of alternative switch suppliers. Greater competition, they believe, will lead to lower prices and will also decrease their uncomfortable dependence upon supplier and competiter AT&T.

Already, several RBOCs including US West, Bell South and Ameritech have awarded major switch contracts to Ericsson, Plessey, Fujitsu and Siemens.

There is room in the US telephone exchange market for at least one more major vendor, industry experts say. The competition between the "alternative" European and Japanese suppliers to establish themselves in the third place slot behind the entrenched US leaders is intense.

Plessey's Stromberg-Carlson is currently leading the pack with estimated US sales last year of $131m. Recently the company won an order said to be worth over $100m from Bell South. Fifty-two central office exchanges will be installed in rural areas of the southern states during the first year of the contract.

Also bidding for an increased share of the US market is Ericsson Network Switching Systems, a subsidiary of LM Ericsson of Sweden. Ericsson's goal, according to company executives, is 12 to 15 per cent of the US market over the next five years. To date, the company's US sales have been small, but the award of a 50 exchange contract by US West has put Ericsson on the map in the US central office switch market.

How markets are growing

Telecommunications equipment and sales estimates in $m

	1984	1985	1986	1987	1990
United States	15,402	16,034	16,959	18,007	20,509
Japan	3,930	4,295	4,716	5,104	5,919
West Europe	11,548	12,411	13,251	14,049	16,295
Other Countries	4,912	5,125	5,454	5,715	6,654
TOTAL	35,792	37,865	40,380	42,875	49,377

Source: International Telecommunications, Stockton Press.

Non-US telecommunications equipment companies are also eagerly eying the emerging US market for digital terminal equipment. Late last year, Fujitsu America, a subsidiary of the Japanese electronics giant, won a highly-prized contract to supply advanced telecommunications terminal equipment for a US West field trial of an integrated services digital network (ISDN), a digital network that allows voice, data and images to be transmitted simultaneously over the local loop through existing telephone network facilities.

Fujitsu of Japan is among those increasing their presence in the US telecoms market

While contracts for the ISDN trials are relatively small, they put the supplier in a strong position to win future business.

Fujitsu has also increased its participation in the US telecoms market through the formation of a joint venture company with GTE. In March, Fujitsu America and GTE Communication Systems finalised an agreement to form Fujitsu GTE Business Systems, 80 per cent owned by Fujitsu America. The new joint company will focus primarily on the private branch exchange market.

But the foreign invaders face an uphill battle. According to Dataquest, the US market research firm, the US central office switch market is shrinking. From an estimated $3.1bn in sales last year, the total market is expected to drop to $2.9bn this year and perhaps $2.5bn in 1988.

Another problem for would-be leading US telecommunications equipment suppliers is the need to establish broad support organisations in the US. The cost of building sales, installation, service, technical assistance and customer training operations is a hurdle that could upset all but the most determined competitors.

Political and trade issues also lurk as a potential barrier to foreign participation in the US telecommunications market. In recent months there have been both threats from both Congress and the US Administration of unspecified retaliatory actions against telecommunications equipment suppliers from countries that allegedly discriminate against US manufacturers.

Ultimately, the battle for third and fourth place in the US telecom equipment market seems sure to be won either through acquisitions or through joint ventures with US firms. Such arrangements might circumvent political issues while also providing foreign companies with the infrastructure needed to support a presence in the US market.

Louise Kehoe

European suppliers seek inroads to US sector

Acquisitions pave the way

EUROPEAN TELECOMMUNICATIONS companies are not exactly welcomed with open arms in the now deregulated US market, but for those who play their cards right the rewards can be handsome.

Acquisition of an indigenous US supplier is the most common method of entry into the US telecommunications market. Organic growth is extremely difficult to achieve.

"Growing a branch in the US is a very long-term business. Jeumont-Schneider, a French company supplying private exchange equipment, tried to do it without much success," says Mr Michael Cooper, managing consultant for market studies at Logica Consultancy.

"People realise now that the US market prefers to buy American, and that there is no time to build up something from scratch."

Some Europeans buy into businesses which are in a tight financial situations while others buy into profitable high fliers to keep the momentum going.

In the former case, UK telecommunications suppliers Racal and Plessey bought into Milgo and Stromberg Carlson respectively. Racal Milgo is now a major supplier of data communications equipment in the US.

"A few years ago, Plessey bought Stromberg Carlson's public exchange activity and braved some indigestion problems in order to get at the public exchange business in the US," adds Mr Cooper.

"European companies generally find US acquisitions a little difficult to digest, but it does work. For example, in a parallel field to telecommunications, Philips bought Signetics, a major semi-conductor manufacturer, and that seems to have been absorbed successfully. Philips has a substantial operation in the US, but it tends to keep these companies going under their own name."

Through a combination of holdings with AT&T, Cable & Wireless (C&W) has established a number of digital networks within the US as part of its global strategy to service the world's main financial centres. The company may typically hold less than a 50 per cent stake, but in most cases provides technical management, offering additional services such as digital leased lines from California to the East Coast.

A customer examines new style telephones at a Bell "Phonecenter" located in a Sears store in the US. European equipment suppliers do not find it easy to make inroads into the US market which "prefers to buy American," comments a market analyst.

Transatlantic communications on private leased circuits are currently provided by Intelsat satellite, with C&W's Private Trans-Atlantic Telephone (PTAT) cable coming in two or three years. This will provide one-stop shopping for communications from California to the UK.

The French telecommunications giant Alcatel has not had much success in the public exchange business in the US but aims to make its mark there through a company manufacturing transmission equipment called Lynch Communications.

"The Alcatel/ITT merger earlier this year is primarily aimed at Europe, and is effectively run from Alcatel in Paris. One has seen a rapid run-down of some of the ITT telecommunications facilities in the US.

"The practicality of pulling two large companies like that together is going to take an enormous amount of time, but will establish Alcatel as a worldwide telecoms company.

"I think some overlapping development projects are being cut in favour of Alcatel. There are now three product lines for public exchange equipment - the Alcatel E10, the MT range acquired from Thomson-CSF a couple of years ago, and now the ITT System 12. Nothing will happen to the existing product lines, but the next generation will be developed as a joint enterprise.

"One of the peculiarities of the telecoms business is that people do expect equipment to be around for a long time, even in the private sector to some extent. If companies and their equipment come and go, they are not looked upon with favour. You have to establish your position in the market before people take you seriously."

GEC in the UK and Italtel in Italy have yet to make any overtures to the US market. Italtel, a state-owned manufacturing organisation, is currently going through a merger with another Italian company called Telettra to form Telit.

Siemens recently bought the manufacturing arm of General Terminals and Equipment (GTE). The operating arm of GTE provides a public network the same size as British Telecom's to various parts of the US, but primarily in Southern California. Ericsson has had some success in the public exchange field with its AXE exchange, particularly in providing exchanges for cellular radio, the same as that used by Racal for its Vodaphone cellular network.

"US deregulation provided us with a substantial market opportunity," says Mr Bo Landin, senior vice-president for corporate planning at Ericsson. "We therefore took a strategic decision to make a major investment in order to secure market share in the US public telecommunications market. We have a development staff of about 300 people working in the US, backed up by our own people and organisation here in Sweden."

Apart from the mandatory requirement to offer competitive telephone services to subscribers through its own exchanges, Ericsson has long been in the interconnect business, something which it achieved independently of US deregulation.

"Interconnect was deregulated 15 to 20 years and we have been in that market ever since," says Mr Landin. "We have also taken half of the US market for cellular radio - this has developed very fast over the last two or three years."

Deregulation in the cellular area made it mandatory to have concessions for two operators in all areas, one to be held by the traditional PTT, in this case AT&T, and the other one given to an independent.

Unfortunately, the system used in the US does not allow cellular radio subscribers to me from one area to another - licences are granted only on a local or regional basis.

"We have now installed cellular radio at 14 different sites in the US. This is not a technical limitation of the system as such. There is no nationwide system available in the US, and I think we will have to wait for quite some time before we see such as system in the US," he says.

'At the moment the cellular radio side is more important in terms of revenues because that is a mature business. Our public exchange side is still at the investment stage, but we expect revenues to come in by around the end of the decade or the early 1990s."

Boris Sedacca

Profile: Dennis Patrick of the US Federal Communications Commission

Seeking to reward efficiency

DENNIS PATRICK, chairman of the Federal Communications Commission, and Mr Mark Fowler, his predecessor, are philosophical twins - deregulation zealots, who believe their agency should intrude as minimally as possible in the marketplace. Stylistically, however, the two men are a study in contrasts.

Mr Fowler,46, chairman until last April, had severe critics in Congress. An abrasive, controversial personality, he once described television which his agency regulates, as simply 'a toaster with pictures', having insisted that the best regulation is no regulation. One of his last acts on the jobs was to oversee adoption of sweeping new limits on the broadcast of obscene and offensive language. He left the Commission rather than face what was certain to be a bitter re-confirmation battle in the Demo- cratic-controlled Senate.

At 36, Mr Patrick is smooth, smart,handsome and witty. While properly respectful to Congress, he and the other three FC commissioners infuriated many legislators last month by voting to abolish the longtime 'fairness doctrine,' which requires television and radio stations to present contrasting viewpoints on issues of public interest. The move may have lost him what good will his geniality has won from Democratic leaders.

Mr Patrick reached the chairmanship of the FCC at a comparitively young age through the kind of California connection which has paved the way for many Washington careers during the Reagan Administration. He graduated from the University of California law school and served as a law clerk to Mr William Clark, later the President's National Security Adviser and Interior Secretary.

Mr Clark brought Mr Patrick to the White House where he worked in the personnel office. From there, the young attorney spotted an opening on the FCC, applied for it himself and in 1983 became one of the five commissioners.

Last may, shortly after assuming the chairmanship, Mr Patrick appeared before a congressional committee and seemed likely to move cautiously on further deregulation. He expressed his desire for 'a productive relationship' with Congress and stressed the need for regulation - on occasion.

"Where regulations are unnecessary or inimical to the public interest, I think we should get rid of them," he said. "Where regulations are needed - and no market can function without at least some basic rules of the game - it is our job to supply them."

Then he launched into his thoughts on the future of telecommunications. One of the most controversial of these was a proposal to increase the cost of monthly line charges for local phone calls from $2 a month to $3.50, shifting some of the long distance costs to local users. To the inevitable cry that customers on fixed incomes would suffer at the expense of business, he quoted a study indicating that long distance phone use has grown among the elderly and low income consumer as a result of rate reductions.

He also proposed to change the way AT&T's long distance charges have been regulated, substituting a limit on profits with a price cap indexed to inflation. Limiting profits, he said, discourages efficiency.

"By rewarding efficiency, we would give the regulated firm strong economic incentives to lower costs to levels of maximum efficiency and to introduce new and better service," he proclaimed. "At the same time, consumers would be protected by the caps and share in some measure of the productivity gains this approach would encourage."

Diplomatically, he asserted that the FCC is not ready to mandate the cap approach. "We would certainly appreciate input from Congress in that dialogue," he said.

While awaiting Congress's views, the Administration's days in office are waning, and so may Mr Patrick's patience.

Nancy Dunne

Dennis Patrick: A believer in minimum interference

Group profile: AT&T

Not an easy ride

IT IS now almost three years since the huge Bell telephone system was broken up in the US and American Telephone and Telegraph, once the most complete communications company in lllkkthe world, floated off into an uncertain future. The history of the group since then is an object lesson of just how difficult it is to change the direction of a large and complex organisation.

When the break-up occurred, AT&T was clearly set on moving quickly into two largely new areas of business. On the one hand, it was intending to use the muscle of its Western Electric manufacturing arm, the traditional supplier of most of the US's telephone system, to move into international markets.

On the other, it was aiming to become a prime player in the office automation sector, using its mastery of the telephone system, its manufacturing know-how and its large research resources to take a grip on the growing market for manipulating corporate information.

In both of these new areas, AT&T has found progress difficult. Indeed, the immediate consequence of the reorganisation of the old company is to have demonstrated the underlying strength of the basic network business rather than the new areas of interest.

Both the new AT&T and the seven regional telephone service companies - the local telephone system operators which were broken off as independent entities from the old group - have managed to generate steady profits from these activities. They have been helped by the strong economy and rising traffic, as well as operating economies pushed through in the more liberated environment following divestment.

On the equipment side, by contrast, AT&T has been faced with the problem of turning itself into an international group in a period of accelerating competition in the US market and continuing protectionism overseas. In the US, therefore, it has found its traditional markets within the old Bell operation system under heavy attack from a multitude of overseas companies; and in export markets it has had to try and find a niche for itself against local companies which are either overtly or covertly supported by their governments.

AT&T has responded to the challenge at home with a cost-cutting programme in its US factories. Jobs have gone at Western Electric, the manufacturing arm of the group, investment has poured into new production methods, and margins have steadily improved. At the same time, the company has given every indication that it is prepared to dig in for the long haul in its overseas enterprises, despite its early setbacks.

The most important of these reverses came earlier this year, when AT&T lost a long and bitterly-fought campaign to take over the French equipment group CGCT, which finally went to Ericsson of Sweden. There was some speculation at that time that AT&T might withdraw from APT, the company which it owns jointly with Philips of the Netherlands. But the collaborative venture has since been putting significant amounts of investment into new plant in Europe, including a transmissions facility in the UK. Last year, it cut its losses in this business to Fl 70m ($33m) from Fl 92m.

On the office automation side, AT&T has struggled even harder, losing well over $1bn on its computer division in 1986. Analysts at one time saw this sector as offering glittering growth prospects as computer and telecommunications technology converged. But in practice it has proved difficult for the computer manufacturers to graft on telecommunications and for the telephone companies to master the computer market.

AT&T's response to these problems has been a mixture of cost-cutting, managerial changes - it has brought in an Italian, Mr Vittorio Cassoni, to head the computer division - and new products. It has gone into an alliance with Olivetti, the Italian group, to ensure its supply of personal computers, and is clinging stubbornly to its strategy of becoming a leader in the information handling and transmission market. Pre-tax losses in the division were cut to around $230m in the first seven months of the year.

Longer-term, analysts remain acutely divided over At&T's prospects. Some worry about its vulnerability to new long distance telephone operators in the US, and there is concern that its efforts to expand overseas will drain off too much cash to be worth it.

On the other hand, it is difficult to find anyone who does not include AT&T on his or her personal list of the survivors from the manufacturing shake-out which is widely predicted in the big switch market. And with an ultra-modern transmissions system and the vast potential of the US market behind it, there is no reason why it should lie down and allow its competitors to hammer it into the ground. Indeed, there can hardly be a telecommunications company in the rest of the world which would not like to have AT&T's problems.

Terry Dodsworth

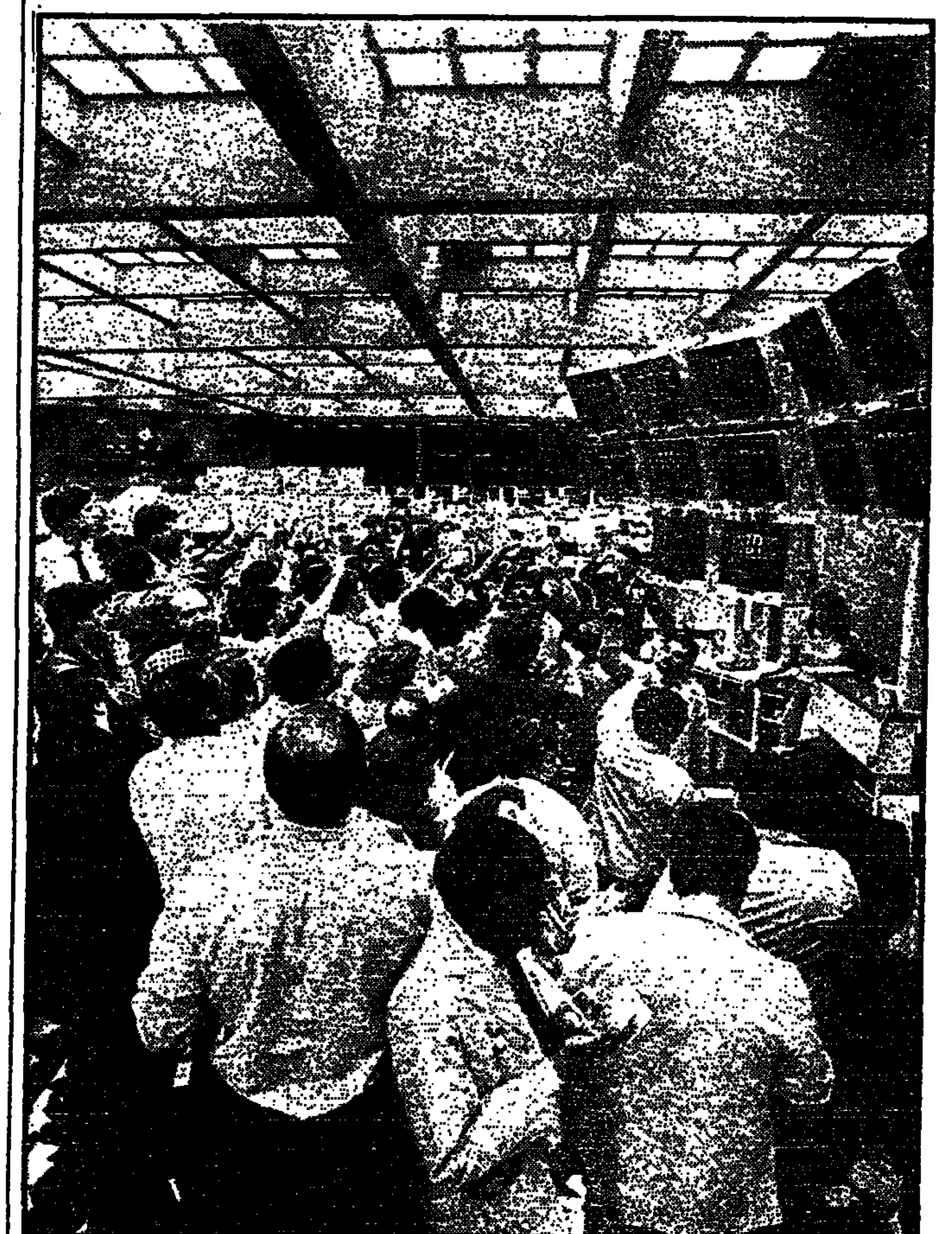
A caller telephones from a Bell public call-box at the Epcot Center, Orlando, Florida. The new AT&T and the seven regional Bell telephone services which were hived away from their former parent have managed to generate steady profits.

AT&T at a glance

(All figures are year-end 1986)

Assets	$38.9bn
Revenues	$34.1 bn
Net income	$139 bn*
Employees	317,000
Capital expenditures	$3.6bn
Research and development expenditures	$2.3bn
Total 1986 calls	20.1 bn
Average calls per business day	34 m
Total international calls in/out	843.6 m
Percent digital switching at end of 1987	98 percent
5ESS™ switch lines shipped in 1986	8.3 m

* Results for 1986 were significantly affected by major charges for business restructuring, an accounting change and other actions, which reduced net income by $1.7 billion. The actions are designed to strengthen the company and make it more competitive, building a base for greater returns to shareowners in the future.



Lively moments on the New York Metal Exchange, as dealers throng around visual display units with the latest prices. Meanwhile, competition among equipment suppliers is intensifying in the race to provide ever more advanced services for the business world.

Canada

Perpetual motion, piecemeal liberalisation

THE PACE of change of late in the C$15bn Canadian telecommunications industry has been *breathtakingly* rapid.

New product developments, some consolidation of the players in the more mature equipment markets and ongoing efforts to *disentangle* the country's bewildering jumble of local, provincial and national regulatory regimes have all contributed to a sense of perpetual motion.

Overall however, while many of the forces which brought greater competition to the US market are increasingly in evidence in Canada, there are indications that this vast and sparsely-populated country will not be rushed. This was emphasised by federal rejection of an *application* by *CNCP* Telecommunications, a joint venture between the two big national transportation companies - Canadian National and Canadian *Pacific - to launch a public* long-distance service in three provinces in competition with the resident utilities in 1985. If the forces of free competition are to invade the Canadian telecommunications market to the extent that they have done in the US, the chances are they will do so piecemeal and over a period.

On the regulatory front, Ottawa has made some progress towards rationalising the hideously complicated current position both by unveiling guidelines for a new telecommunications policy and by gradually increasing pressure on the provinces to relinquish some of their own zealously-guarded powers.

In July, Ms Flora MacDonald, Federal Communications Minister, outlined plans to divide telecommunications carriers into two categories. The first, called Type I, would comprise companies which own and operate inter-provincial and international networks. Type II companies, meanwhile, would have the right to lease facilities from the national carriers in order to sell enhanced services to the public. –

Plans are for unrestricted competition to be allowed among Type II carriers. New Type I entrants would, however, be limited "to prevent unnecessary duplication of costly facilities". In addition, Type I carriers must have less than 20 per cent foreign ownership, with the exception of those which are already foreign controlled.

Observers feel that the provinces may be encouraged to fall in line with Ottawa's approach by the likely outcome of a long-*running* case, *now before the* Supreme Court, concerning another CNCP proposal, this time to interconnect with the facilities of Alberta Government Telephones.

Mr. Edmund Fitzgerald of Northern Telecom: Pressing into Europe

AGT maintains that it alone has the right to pass judgment. But the court is expected to rule that the federal government, through the Canadian Radio-television & Telecommunications Commission (CRTC), has the power to decide who can connect with provincial telephone companies.

At present, it is no easy task for even the most experienced observer to summarise which utilities operate where and who *regulates them*.

As things stand, the CRTC has primary regulatory jurisdiction in Ontario, Quebec and British Columbia through its authority over the telephone companies in these provinces.

Bell Canada - a subsidiary of Bell Canada Enterprises, the C$14bn Montreal-based industry Leviathan - rules the roost on local services in most of Ontario and Quebec, the country's two most populous provinces. It also owns substantial stakes in three utilities in eastern Canada. Other companies controlled by BCE include Northern Telecom, the world's biggest supplier of digital telecommunications equipment, Bell-Northern Research, a leading research group, and the recently-formed BCE Mobile Communications.

On the West Coast, meanwhile, British Columbia Telephone (BC Tel) - a subsidiary of the US group GTE - enjoys a similar monopoly.

Utilities in other provinces fall under the jurisdiction of provincial authorities. The Alberta, Saskatchewan and Manitoba governments own their own telephone companies.

There are also several local utilities. Ontario-Northland Telecommunications, for example, provides services in parts of Ontario not served by Bell.

Public long-distance services are currently the preserve of Telecom Canada, whose members include the nine major provincial carriers and Telesat Canada, the *national satellite* corporation jointly-owned by the federal government and the telecommunications carriers.

The CRTC also has indirect authority here - as it does over expansion-minded CNCP, which has provided privately-leased long distance voice and data lines to business since 1979. It is hardly surprising that such a regulatory labyrinth sometimes produces friction.

Canada is being prodded to proceed more rapidly with the introduction of more free competition by mounting protectionist sentiment in the US.

Particularly unpopular is Canada's 17.8 per cent tariff on telecommunications imports, which the US claims is not only higher than the 8 per cent levied south of the border but provides Canadian companies like Northern Telecom with an unfair advantage in their home market. US competitors also want Northern to sever its links with Bell Canada - its sister company and biggest customer. The arrangement gives Northern, in effect, first refusal on Bell Canada equipment orders, they argue.

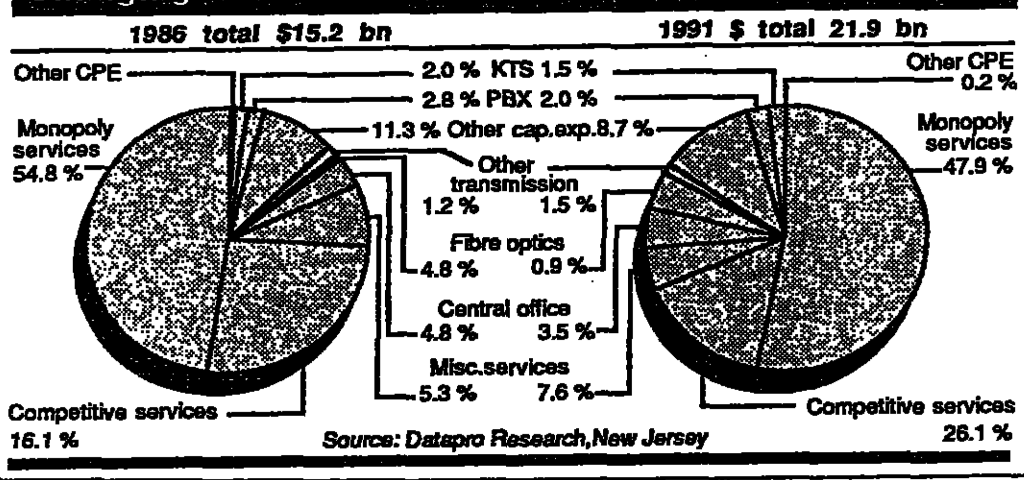
Canadian industry revenues

Telecommunications equipment and services

	1986	1991	% Variance
Monopoly Services	8,342.2	10,528.3	4.8%
Competitive Services	2,456.3	5,731.8	18.5%
Misc. Services	807.3	1,674.4	15.7%
Central Office	727.1	773.0	1.2%
Fiber Optics	247.5	198.2	−4.3%
Other Transmission	177.2	339.8	13.9%
Other Cap. Exp.	1,718.6	1,918.5	2.2%
PBX	432.0	429.0	−0.1%
KTS	297.0	330.0	2.1%
Other CPE	10.0	50.0	38.0%
Services	11,605.8	17,934.5	9.1%
Public Network	2,870.4	3,229.5	2.4%
CPE	729.0	759.0	0.8%
TOTAL	15,205.2	21,923.0	7.6%

Source: Northern Business Information estimates.

Changing markets in Canadian telecommunications



Source: Datapro Research, New Jersey

This attitude has been partly spawned by the BCE subsidiary's conspicuous success in the US market. Northern's 1986 sales south of the border totalled US$2.9bn or approximately two-thirds of overall revenues. Such a performance has until recently contrasted markedly with the sales by US companies, such as AT&T, in Canada. However, AT&T Canada has *reportedly enjoyed a distinct* change of fortune lately under its new president, Mr Jim Leto, and is currently trying to forge links with local manufacturers *to make some AT&T equipment* in Canada.

By now, the Central Office (CO), Private Branch Exchange (PBX) and Key Telephones System *(KTS) markets have become* relatively mature in Canada, having achieved high penetration among potential users. This has prompted some consolidation among market entrants, particularly in the PBX and KTS sectors.

The C$255m PBX market is dominated by Northern Telecom with an approximately 48 per cent market share, according to IDC (Canada) figures. British Telecom-controlled Mitel is second with some 24 per cent, followed by IBM-affiliated Rolm Canada with 13 per cent.

Nortel can also boast a 32 per cent share of the C$166m KTS market. However, TIE/Telecommunications Canada marginally outstrips it with an estimated 35 per cent.

For growth, some companies are turning to various new or lower penetration products. BCE recently restructured its mobile *communications* companies into a new subsidiary which it says it plans to take public. Meanwhile, Nortel recently announced its entry into *the facsimile sector by starting* to market the three-model PerFAXion range.

Analysts like Mr Albert Daoust of Evans Research ex*pect the C$120m Canadian fax* market to enjoy "close to 50 per cent growth" this year, with the figure remaining as high as 40 per cent for the next two years.

In the longer term, all eyes are focused on the so-called integrated services digital network (ISDN), as by far the most important new telecommunications development. ISDN will allow a series of terminals to be plugged into the telephone network using a single jack to provide an international and unified communications network. By the end of the year, two Bell Canada customers are expected to be serving as guinea pigs for an experimental service linking Toronto, Ottawa and Montreal.

David Owen

Profile: Northern Telecom

Not resting on US laurels

NORTHERN TELECOM, the Canadian telecommunications equipment giant, has unveiled a stream of new products in the run-up to this year's world telecommunications show in Geneva.

First off the block is the new digital public switch, the DMS SuperNode, unveiled in July, which is likely to become Northern's flagship product. More powerful than its existing switches, it also gives phone companies the ability to write their own computer programmes for their switches, allowing them to offer phone services tailored to the specific *needs of their customers*.

Next in September came an addition to Northern's private switching family designed to parallel the SuperNode in the *world of public switching. The* new machines are more powerful, allowing more calls and more sophisticated services to be handled by them.

Hard on the heels of the private switch, Northern announced a new digital data switching system, the DPN-100, which Northern said provides a 10-fold capacity increase for data communications network operators.

This flurry of activity is, in one sense, just another example of spiralling technological advance *familiar* throughout the industry. But, more interestingly, the product announcements also fit into the pattern which Northern sees unfolding into *the 1990s*.

Northern, through first-rate technology and aggressive marketing, has been one of the success stories of the last decade. It *now dominates the US market*, by far the world's largest, along with its arch-rival American Telephone and Telegraph.

Yet it would be fatal for *Northern to rest on its laurels* there. Thanks to the massive replacement and modernisation programme of recent years, spurred on by the break-up of the Bell system, growth rates for both public and private exchanges are now likely to tail off. Moreover, companies such as Siemens of West Germany, NEC of Japan, Ericsson of Sweden and Stromberg-Carlson of Florida are fighting for a slice of the regional Bell's business.

Mr Edmund Fitzgerald, Northern's chairman, dismisses suggestions that, faced with these pressures, the company's business in the US is bound to diminish. He believes that the value added per line - add-ons, services and so on - is increasingly what matters, not a crude line count. And on this measure, Northern, with its big installed base, is *still* in a strong position.

Northern's latest product announcements fit into this strategy. Mr John Roth, Northern's executive vice-president for product planning, explains that customers put an increasing value on flexibility in their networks: "We are finding our*selves being inundated with* customers wanting to achieve competitive advantage through their telephone system."

Northern has put particular *stress on developments* which some observers believe will revolutionise North American communications in the next decade, such as Integrated Services Digital Network (ISDN) which allows voice, data and video to be sent over the same public exchange line.

The company believes that its familiarity with these leading edge technologies in the US will help it penetrate markets outside North America - another key goal of the corporation as its backyard becomes more congested.

It chose to launch its new data switch in Europe, where it has succeeded in selling packet switches in countries such as West *Germany*, *Austria*, Portugal, Switzerland and Ireland.

However, Northern has struggled to become a big player in many markets outside North *America and has lost some im*portant battles: it failed to become the second switch supplier to British Telecom or to buy CGCT, the second French *switch manufacturer*.

The company has talked generally about wanting to make acquisitions, strategic alliances and direct investment to help its thrust into Europe, but has so far not made any significant move. Northern has said it wants its overseas sales to account for 15 per cent of its worldwide revenues; last year, they made up less than 5 per cent of its $4.384bn sales. Bridging that gap will take some doing.

David Thomas

Newcomers in Japanese domestic telecommunications

Big shake-up in services

"ON SEPTEMBER 4," says Mr Sachio Senmoto, "Japan entered the information age." On that day, the three companies which have been licensed to provide long-distance competition to Japan's domestic telecoms giant, Nippon Telegraph and Telephone, all started selling dial-up services.

The newcomers have been offering leased lines to Japan's businesses since last autumn. They are all making heavy losses so far; nearly Y11bn between the three of them last year. But they all have parents with deep pockets, and business plans which do not envisage turning a profit before about 1990.

Mr Senmoto left a high-ranking job at NTT to found one of them. His firm, Daini Denden (a consortium led by Sony and the ceramics firm Kyocera), has constructed a microwave link which connects Tokyo to Osaka by way of Nagoya. It runs through Japan's industrial heartland: half of the Y1.5 trillion which Japan spent on long-distance telecoms last year flowed along that route.

Mr Senmoto's firm faces plenty of competition: from the other new rival carriers (Japan Telecom and Teleway Japan) which have both installed fibre-optic cables along roughly the same route, from two new telecoms satellites which should be launched early next year, and not least, from NTT itself. NTT runs a loss-making local telephone operation, and desperately needs to hold on to profitable long-distance traffic.

It is hard to think of a Japanese industry more regularly in the news than telecoms. Japan is in the middle of a huge telecoms modernisation. Like British Telecom in Britain, NTT has been cushioned from competition for too long and has become bureaucratic, inefficient and expensive. Although subsidised local calls provide one of Japan's few bargains, long-distance calls are expensive. A call from Tokyo to Osaka at peak rate costs Y130 a minute on NTT's network. Part of the reason is that Japan has converted far less of its network to digital switching than any other major country.

It is too early to say how well the new domestic carriers will do. They are all spending lavishly on promoting their new dial-up services, running campaigns on television, in magazines and at railway stations. Between them, they managed to sign up nearly 800,000 advance subscribers (individuals as well as businesses) before their services went live.

Long-distance calls are expensive in Japan. Above: busy foreign exchange brokers making international calls at the Ueda Tanshi money house in Tokyo.

Using the new carriers requires only a once-and-for-all fee of Y4,000, which is paid to NTT for the use of its local network. The New Common Carriers are at the moment offering discounts of 20 to 25 per cent below the prices charged by NTT. The Ministry is keen to avoid a price war, which might bankrupt all of them before they have got off the ground.

It therefore insists on approving the tariffs charged by all Type I carriers, which are telecoms companies which own their own network rather than sell services like electronic mail, for example, over networks belong to other firms.

This explains why the three new carriers are charging almost identical rates, even though they use different technologies and have different costs. But all are lobbying for greater freedom to price their services the way they want to.

There are two keys to the new companies' success. One is their ability to attract big corporate subscribers: by some estimates, as much as 80 per cent of all business long-distance traffic travels along the Tokyo-Osaka corridor. They have one head-start. All of them are owned by large companies, with plenty of telephone and data traffic which needs handling. Japan's big trading houses (the Soga Shosha) have shares in all of the new carriers, though their loyalties are divided, Mitsubishi, for example, having small stakes in all of them.

The other crucial factor is the reaction of NTT. It has already squeezed the NCCs in the leased-line business by cutting its prices by 10 per cent on August 1. That has reduced the NCCs' discount to less than 10 per cent. The dial-up market is worth about 20 times as much, and NTT may not be able to afford to cut its prices.

New long distance services are only part of the domestic Japanese telecoms story. The second revolution has been the steady growth in the market for Type II services, the Japanese term for VANs. This growth is getting a further boost from the availability of cheap new capacity. Type II services are proliferating rapidly: more than 400 of them have been registered with the Ministry since the Telecommunications Business Law came into effect in April 1985.

The Ministry expects that the Type II market will be worth at least Y700bn this year, and it is growing at around 20 per cent a year. It breaks into two parts: Type II Special and Type II General. The first of these are "large scale" VANs, which are defined as services using more than 500 leased circuits transmitting 1,200 bits a second or more. Examples would be packet-switching networks, electronic mail services and businesses which resell large chunks of capacity bought wholesale from the Type I carriers.

There are 11 of these services operating in Japan at the moment. Among them are data-networks run by NEC, by Hitachi, by Fujitsu, and by the prominent independent software house Intec (which is in a joint venture with America's GTE Telenet and Canada's IP Sharp. There are no restrictions on foreign ownership of Type II firms. Among the foreign participants are IBM (which is involved in a controversial joint venture with NTT) and AT&T, which has teamed up with Hitachi, Fujitsu and the Industrial Bank of Japan to form a firm called Japan Enhanced Network Systems.

The Type II General market includes financial information services run by high street banks like Sanwa Bank, Mitsubishi Bank and Fuji Bank: other VANs include services run by the trading companies aimed at the retailing of the products they distribute. The pharmaceuticals and food businesses have both attracted a number of entrants. Few of the services are profitable in their own right: but they help sell other products.

John Woodford
Tokyo

Dr Hisashi Shinto of Nippon Telegraph and Telephone

Delighting the share-holders

DR HISASHI SHINTO, the outspoken chairman of Nippon Telegraph and Telephone, arrived at his present position from a most unlikely background.

A mechanical engineer, he spent most of his career in the shipbuilding industry. He joined Harima Shipbuilding and Engineering in 1934, rising to become president in 1972 of what had become Ishikawajima-Harima Industries (IHI), one of the leading heavy industrial groups in Japan. He remained president until his retirement in 1979.

He came to NTT in 1981 at the age of 71 with the nickname "Mr Rationalisation", acquired while restructuring IHI away from its dependence on the declining shipbuilding industry.

At NTT as well, his main concern has been coping with radical change. He was the first president of the then monopoly state-owned company to come from the private sector. He presided over the privatisation of the company in April, 1985, its adjustment to the opening up of the telecoms industry to competition last year and its spectacular flotation on the stock market early this year. He has also directed NTT to open up its supply channels to foreign manufacturers.

On his arrival at NTT, Dr Shinto said that NTT should be an organisation that could be loved by the people. Whether that has been achieved is debatable, but the company has certainly not suffered the widespread criticism that has hit British Telecom since its privatisation. NTT shareholders should be happy, because the shares have risen substantially in value since their initial issue.

The company has also created one of the most successful consumer fad products of the past two years, the telephone card. These are now ubiquitous in the country, offered by many companies - with suitable advertising on the face - as promotional gifts and traded actively by collectors. In the process, they have created a large new source of cash flow for NTT and cut its costs of operating public telephones.

Dr Shinto (he has a PhD in mechanical engineering from Japan's Kyushu University) is one of Japan's most cosmopolitan executives. While at IHI, he spent an average of 150 days a year outside Japan, selling his company's products. Now, he says he is abroad only one month of the year.

For all his activity, Dr Shinto always appears relaxed and prepared to comment freely on a wide range of subjects. A year ago, when NTT shares were being offered on the market for Y1.2m each, a breathtaking 133 times the company's earnings, he acknowledged that the price was totally indefensible.

He blamed it all on the "money game" that was gripping the Tokyo stock market at the time. "One day, people engaged in the money game are going to incur the wrath of God," he told a group of foreign reporters.

In a recent speech looking back on his experience in industry, Dr Shinto attributed Japan's present success to its ability to adjust to the "Nixon shock" in 1971, when exchange rates were freed, and top the first oil shock in 1973.

Those two shocks forced Japanese export-oriented industry to look in every nook and cranny for ways to cut costs. Along the way, he said, they discovered that many ways of saving energy or cutting pollution also contributed to improving product quality.

Thus, by the late 1970s, to the surprise of many Western analysts, Japanese industries were competitive again. "People overseas were surprised when they started to see me again," he said.

This blitz on costs also left Japanese companies in better condition than their international rivals when the second oil shock hit in 1979. And that, together with their enthusiastic adoption of electronic manufacturing systems, paved the way for the country's export boom of the 1980s.

Dr Shinto believes that the main mistake Japanese companies have made has been to be too preoccupied with market share. This has led to over-production in a number of sectors, aggravating trade frictions. "People thought that what was big was good. We have to renovate our thinking. Sales-to-profit ratios are much more important."

Ian Rodger

Japan's growing influence in the world of international finance is bringing with it an increasing demand for global communications link. Pictured here are dealers on the Bond Futures Trading Floor of the Tokyo Stock Exchange.

Japan's international telecommunications

Demand rising steadily

THE LONG saga of Japan's international telecoms licences is nearly over, though there is still the chance of a surprise ending.

International Digital Communications, a consortium that includes Britain's Cable and Wireless and the American regional holding company, Pacific Telesis, has added a sharp political twist to the negotiations, but looks almost certain to obtain the licence it needs to offer international services to and from Japan.

So does its rival, the all-Japanese consortium, International Telecom Japan. Both have formally submitted their applications to the Ministry of Posts and Telecommunications, which will probably announce its decision by the end of the year. The fact that both sides have been allowed to submit applications is widely interpreted to mean that both will be successful.

The high degree of foreign participation in the original IDC proposal — up to the limit of 33 per cent allowed by the Telecommunications Business Law — originally worried the Ministry. It cited fears about threats to national security, ignoring the fact that sensitive information could travel on KDD's international network.

KDD's monopoly on international links was broken by the telecoms law, but it is still waiting for the competition to materialise. But Cable and Wireless, which has been completely privatised only since 1985, still has powerful political friends. Early this year, when IDC seemed on the point of being excluded, Mrs Thatcher appealed directly to Mr Yasuhiro Nakasone, Japan's Prime Minister.

Japan sorely needs competition in international telecoms. It costs more than twice as much to telephone Britain from Japan as it does to make the call in the opposite direction. Japan still uses international links less than most countries, because of the problems of language and time zone. In Japan, international calling accounts for only about 3.5 per cent of total telecoms spending. The British figure is about 25 per cent, though America spends proportionately even less than Japan does.

But international traffic has been growing at more than 25 per cent a year, much of the increase being due to the introduction of efficient facsimile machines. Tokyo's position as one of the world's three main capital centres is also pushing up demand.

The Ministry's solution to the conflict was to try to force the two groups to merge, and earlier in the year it seemed as though C Itoh, the leading Japanese partner in IDC, would accept a compromise. But C&W refused. The merger would have cut its stake in the new carrier from 20 per cent to somewhere between 3 and 5 per cent. It has ended up with a 16.8 per cent stake.

The two sides could not agree on another question: whether or not to build a trans-Pacific fibre-optic cable. For Cable and Wireless, the cable, which will cost about Y20bn, was non-negotiable. C&W is in the middle of a programme of investment which will cost as much as £600m and allow it to put a girdle round the earth.

The company plans to be operating a trans-Atlantic cable by 1989, though recent events in America mean that it is now not clear whether its intended American partner, the regional holding company Nynex, will be allowed to participate. C&W already operates leased-line services across the American mainland. The Pacific cable would complete its circuit and allow it to offer global connections.

The Japanese Telecoms Ministry is clearly unhappy about the new cable: it worries that the huge increase in capacity which it and a cable which is being laid by KDD and AT&T represents could trigger a damaging price war, despite its efforts to prevent one by fixing the prices which any Type I operator can charge.

To attract any customers, the new companies will need to offer discounts of 20-25 per cent below KDD's tariffs. IDC says it is aiming to capture only a modest Y30bn of the Y500bn it expects the international market to be worth in 1994.

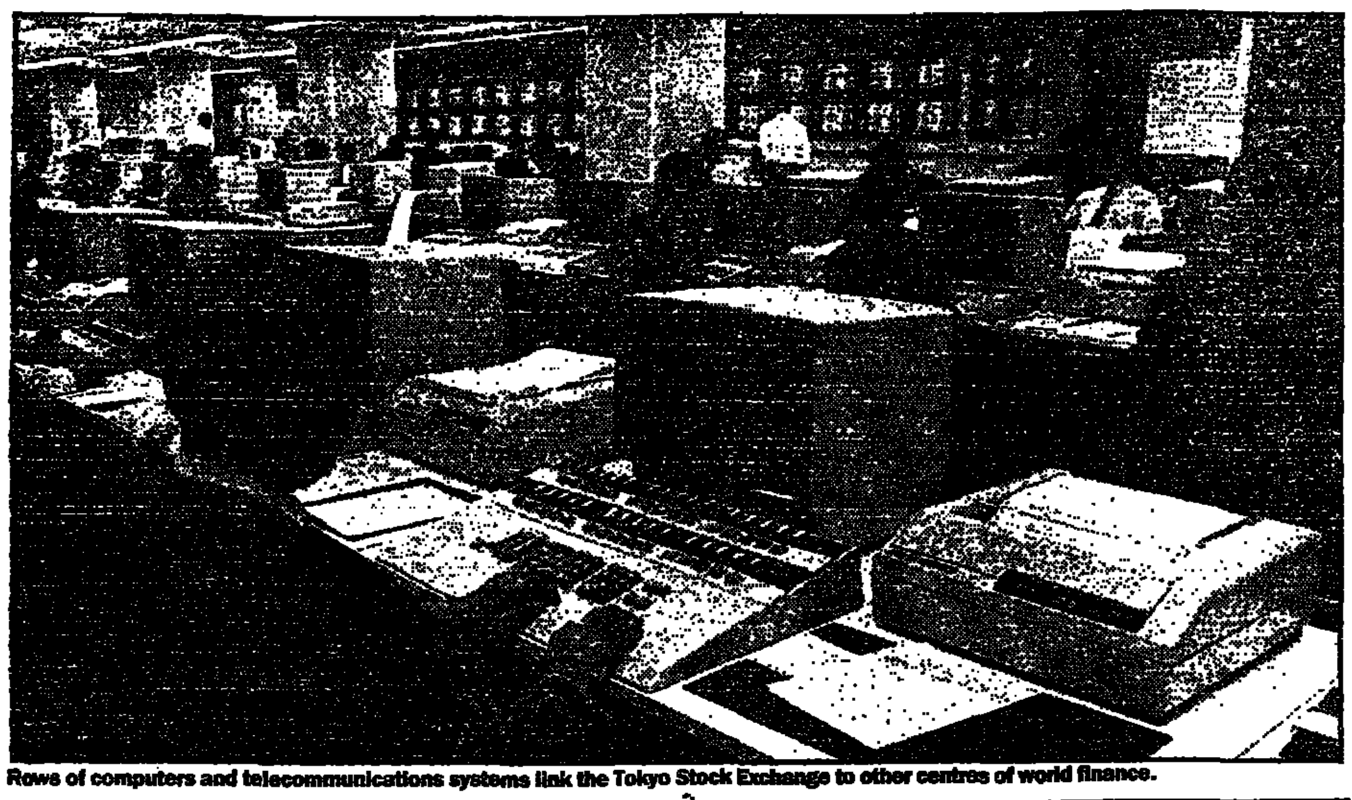
But the organisation most at risk from any international capacity glut is C&W. Sir Eric Sharp, its chairman, points out that every time international capacity has been increased in the past, new uses have been found for it. He envisages wonders like international videoconferencing, computer-aided design and real-time global stock control.

ITJ, however, which is a consortium led by the trading houses Mitsubishi Corporation and Mitsui and Company and including 53 other firms, sees things a little differently. Its members were as adamant that a new cable will be a financial disaster. If they get a licence, they will be in the business of reselling capacity leased from KDD (not a healthy situation, IDC maintains), the international satellite consortium Intelsat and, if it is built, even the IDC cable. It is quite normal for rival carriers to lease capacity on each other's systems, at least for the purposes of backing up their own systems.

IDC got a big boost at the time that it announced the new operating company for its services. The motor company Toyota, which had been cannily backing both horses with stakes of around 3 per cent, demonstrated its support for IDC by upping its stake to 15 per cent, and providing Mr Gentaro Tsuji, its vice-chairman, as IDC's new chairman.

Both companies, if successful, aim to start up their services as early as 1989.

John Woodford
Tokyo



Rows of computers and telecommunications systems link the Tokyo Stock Exchange to other centres of world finance.

Japan's equipment makers

Staying ahead of the pack

JAPANESE TELECOMMUNICATIONS equipment makers are facing both new challenges and opportunities with the privatisation of NTT and the liberalisation of the domestic telecommunications service market.

NTT, as part of its cost-cutting efforts to meet the competition from four new common carriers, has increased pressure on suppliers to cut prices, eroding the comfortable position of the so-called NTT family. The four family companies — Fujitsu, Hitachi, NEC and Oki Electric Industry — once had a virtual monopoly on the NTT market, but now face stiff competition from new entrants, both domestic and foreign.

On the plus side, the liberalisation has helped fuel a boom in demand as private companies rush to instal systems to take advantage of promised lower telecommunications costs.

NTT itself is also investing heavily to move from analog to digital and otherwise update its networks to compete with the *new carriers. The firm's plant* and equipment investment totalled Y1.6 trillion in the fiscal year ending last April, of which about Y800bn was for equipment purchases, and is projected to rise 10 per cent to nearly Y1.8 trillion this year.

"The competition has become severe, but the reduction in line charges and NTT's efforts to cut its costs have created even greater demand for telecommunications equipment," Mr Susumu Mizusawa, general manager at Fujitsu in charge of telecom market promotion, says.

Those firms with the size and resources to cut costs and maintain heavy research and development programs are likely to come out ahead, but others may not survive.

Under the family arrangement, NTT carried out joint R&D efforts with the four companies and purchased almost exclusively from them. They in turn organised smaller firms underneath them, sharing technology in return for a stable and loyal supplier relationship.

The first change in this structure came in 1981 when NTT adopted Gatt procurement standards, but the shift to non-traditional suppliers accelerated with the April 1985 privatisation. In August of that year, NTT reached agreement with non-*family member Toshiba to carry* out joint development of PBX switching devices. Nearly all of NTT's procurement stems from joint R&D efforts, and having access to that research gives firms an indication of what directions NTT is going in.

Matsushita Electric Works, a member of the Matsushita group, has also emerged as a powerful new domestic contender in the telecom market.

Among foreign companies, Canada's Northern Telecom last year won a contract to supply $250m worth of central switching equipment over a five-year period, beginning in 1989.

The market share of the newcomers is dwarfed by that of the former family companies, which are still benefiting from their longstanding ties with NTT, but seems certain to grow as relationships between NTT and the new entrants develop.

'The competition has become severe, but there is even greater demand for telecommunications equipment.'

While competition has yet to cut into market share, it has already had a dramatic effect on profits. The average discount on sales to NTT has increased from 40 to 60 per cent of list price, says Noboru Ishihara, an analyst at Nomura Research Institute.

Competition in the telephone set and facsimile machine markets has become so fierce that many participants are not able to turn a profit. At the same time, a slump in the export market following the sharp appreciation of the yen against the US dollar has added to the industry's difficulties.

A strong effort to move into international markets has pushed the proportion of exports in total sales from 20 per cent in the mid-1970s to 40 per cent today.

Oki Electric, by far the smallest and most dependent of the former NTT family members, recorded a net loss of Y2.4bn in the fiscal year ending in March 31 and is already being mentioned as a possible takeover target. The other telecommunications makers are diversified and large enough to weather the current storm, with operations in computers, semiconductors, home electronics and in Hitachi's case, electrical plant equipment.

At Fujitsu, which less than 30 years ago relied on NTT for over 50 per cent of its sales, the telecommunications sector accounts for just 18 per cent of total revenues, only about one-third of which goes to NTT. The NTT proportion is likely to fall further because of growth in sales of internal telecommunications systems to companies, Fujitsu's Mr Mizusawa says.

In the long run, the key to success in a liberalised market will be the ability to compete both cost-wise and on the technology front.

The equipment makers have shifted NTT's demands in part to their suppliers, pressing them to lower prices. They have also begun to look outside their group for parts and components, in some cases going abroad to the US and Europe and more recently to South Korea and the other Asian newly-industrialising countries.

With cost-cutting measures and a large commitment to R&D already in place, the major makers may in the end benefit from the pressures of the new free market environment, says Nomura's Mr Ishihara. Forced to focus on staying ahead of the pack, Japan's telecom equipment industry may emerge more competitive than ever in global markets.

Ken Moritsugu
Tokyo

Japanese manufacturers are seeking to supply an ever-growing share of the world's demand for gadgets in the telecommunications sector

Mobile telephones in Japan

Powerful connections matter

DESPITE THEIR love of electronic gadgetry, Japanese consumers have yet to flock to the mobile telephone market in a big way. This could change rapidly, however, as the sector is finally opening up to private sector competition.

This autumn, the first three competitors to Nippon Telegraph and Telephone, Japan's former monopoly supplier, opened their doors for business. Significantly, two of them plan to use a foreign supplier, Motorola, for their equipment.

According to domestic estimates, Japan's sales of mobile telephones currently amount to less than 0.8 per cent of the potential market. This is well below the level of penetration in the UK, for example, despite the greater affluence of Japanese businesses compared to their UK counterparts.

Still, most expect this percentage to grow *swiftly. The use* of car telephones in Japan increased from 64,000 units in 1985 to 90,000 units last year. This year, NTT says, the number of units sold will top 125,000. Estimates for future growth vary from 1m units by 1995 to 4.5m units by 2000.

The new private companies, however, will not be selling equipment to consumers for another two years, given the long lead time required for establishing a mobile telephone network. None the less, their very existence is the result of a long, bitter struggle between the US and Japan on market access for foreign suppliers. The US won the struggle, but only to a limited extent. The episode once again highlights the difficulties which foreigners face when trying to crack the Japanese market.

The struggle took nearly two years and involved trade negotiators from both countries at the highest level. After resolving technical barriers to trade through these negotiations, Motorola joined hands with new telecoms company, Daini Denden. The Japanese partner ran into trouble, however, when it sought a licence to operate from *the Ministry for Post and* Telecommunications.

The Ministry decided to approve a licence for only one competitor to NTT and indicated that a more powerfully connected applicant, Teleway Japan, would gain that approval.

After fierce protests from the Americans, the Ministry agreed to give two licences, but restricted the geographical areas in which each company could operate. Earlier this year, Teleway received a licence to operate in the lucrative Tokyo area, while Daini Denden got the Osaka area, Hiroshima and southern cities.

The US Government again protested, but Daini Denden decided to stick with the compromise agreement as the Government showed no signs of budging. The two companies have proceeded to move into the market in a typically Japanese way. Each group is now setting up subsidiary companies to provide their new service. These new companies, including Teleway's Nippon Edo Sushin and Daini Denden's Kansai Cellular Telephone and Kyushi Cellular Telephone, involve heavy minority participation from important companies in their areas.

Teleway's company, for example, includes Tokyo ELectric Power as a prime minority shareholder. Daini Denden's Kansai company includes Kansai Electric Power, Osaka Gas, Sumitomo Metal, Suntory and Wacoal as shareholders.

According to Mr Tadashi Kagawa, *managing director* of mobile communications for Daini Denden, the utility companies will be able to help the new companies with management skills and engineering know-how, as well as locating office space and other needs.

Mr Kagawa says it remains unclear whether the new companies will be able to undercut NTT's prices as pricing is currently controlled by the ministry. Most believe, however, that the new companies will be able to bring prices down after they begin operations in 1989.

In the meantime, NTT is also making plans for expansion in the mobile telecom market. It plans to expand its network to cover 28 new service areas in this fiscal year. This will mean that more than 550 cities *will* be covered by the NTT network by the spring of next year.

Carla Rapoport
Tokyo

India

Still a long way to go

INDIA INHERITED only the bare bones of a telecommunications system from the British when it achieved independence in 1947. There were just 86,000 telephone connections spread over 320 telephone exchanges. Of the country's half million villages, only 338 boasted a single telephone.

Over the years, a reluctance to spend money on telecommunications when other priorities such as agriculture, housing and clean water took precedence, has left the skeleton but thinly fleshed.

There are still only about four telephones per 1000 head of population compared to 800 per thousand in developed countries. Service is frequently appalling with up to 33 faults for each 100 telephones reported every month. Bangalore, home of Indian Telephone Industries (ITI), the state telecommunications enterprise, has the worst telephone system in India.

In the past three years or so, however, the political mood has changed. Mr Rajiv Gandhi, the Prime Minister, has identified telecommunications as one of the key technological missions for the country. Experts such as Mr B.S.Prabhakar, managing director of the state-owned Electronics Corporation of India say: 'I believe that telecommunications will determine the pace of technology in India'.

India is now two years into its seventh five-year plan. By the end of the century the aim is to have 30m main telephone lines compared with 3.5m lines at present. It will mean, according to Mr B M Khanna, general manager of the Mahanagar Telephone Nigam, the agency responsible for telecommunications in New Delhi and Bombay, spending some Rs500bn (about $38.3bn) over the next 13 years.

Whether this sum can be found remains an open question, especially as budgets for the present five year plan are being scrutinised as a consequence of this year's drought.

Nevertheless, Indian telecommunications is in the middle of its greatest period of change technologically and financially since the first telephone exchange was established in Calcutta only five years after Graham Bell invented the telephone.

The most important technological development was the formation three years ago of the Centre for the Development of Telematics (CDoT), a government-backed enterprise set up to design and manufacture prototypes of an indigenously designed family of switching systems to take India into the era of all-digital telecommunications.

Switches lie at the heart of telecommunications systems; digital switches with stored program control are essential to modern telecommunications but are the very devil to design and commission.

Behind CDoT is perhaps the most unusual and interesting technologist in India today, Satyen 'Sam' Pitroda, an expatriate who made his fortune designing telecommunications switches in the US, and who has returned to live in his native country and show it how to create the kind of communications technology best suited to India.

He asked the Government for three years and Rs360m (about $27.58m). After considerable debate he got it and his team of young engineers set to work in a converted New Delhi hotel with the derision of the world's main telecommunications companies ringing in their ears.

Three years on, it is those experts who are having to eat their words. CDoT has designed and built an exchange suitable for rural areas: it has designed and built a small business exchange. And its principal project, the 16,000 line main exchange is ready for final testing.

Some 40 companies have already taken CDoT licences to manufacture the components of the CDoT exchanges and the mood in government is that India's indigenously developed technology will form the basis of its advance in telecommunications through to the next century.

Mr Pitroda explains with devastating logic why he was so sure his ideas would work.

- While most existing exchanges have been developed out of necessity using yesterday's technology, he was able to start with a clean drawing board and use the most advanced processor and memory chips available.
- The quality of Indian software is excellent and programmers and systems analysts earn very low salaries by Western standards. A $36m project in India is equivalent to a $400m in the US.
- He was designing for Indian conditions at the outset. His rural exchange is proofed against temperature changes, dust and humidity. It is larger than its western equivalent, but that hardly matters in the vastnesses of the Indian outback.

Western telephone switches like the Strowger and Cross bar systems which still predominate in India and even the CIT-Alcatel E10B which formed the basis of India's first digital switches were designed for heavy telephone densities and low line traffic.

The opposite conditions obtain in India - low telephone density and a huge number of calls per line. So Pitroda's designs took these condition into account. He built in remote diagnostics and developed a pictorial method of displaying faults to make maintenance easier.

Even so, developing a highly sophisticated device like a switch in India presented unusual problems. It took 18 months to train a metal working company to build the frames which carry the printed circuit boards to the correct tolerances.

CDoT at present, therefore, seems to have the edge over CIT-Alcatel and other telecommunications manufacturers in the competition to provide India's next generation of switches.

The country's principal telecommunications suppliers - Indian Telephone Industries(ITI), Bharat Electronics and Hindustan Cables - are state-owned, show high production costs and slow deliveries.

Both ITI and the Department of Electronics, however, complain that their development has been hindered by a scarcity of funds over the years.

The Government is now well aware, however, that money has to be spent in large amounts if India's telecommunications are to be brought up to date.

In one major shift in policy, plans have been developed to allow money to be raised through public offering and the creation of a Telecommunications Finance Corporation.

The success of Europe's Ariane satellite launcher earlier this year must have cheered Indian telecommunications experts.

The Indian multi-function Insat satellite has made a remarkable contribution to telecommunications across the country. Launched in 1983, it provides 3,956 telecommunications circuits relaying information between 29 fixed and three transportable earth stations.

There had been worries however that so much depended on a single satellite and the plan had been to launch a second satellite, the Insat-1C, using the US shuttle as launcher.

Those plans had to be put aside after the shuttle Challenger disaster two years ago and fresh plans made to launch from Ariane. Its long run of successful launches, however, was broken by a series of technical mishaps.

These now seem to have been overcome and India's latest step towards an efficient telecommunications system should go into geostrationary orbit early next year.

Alan Cane

World's top 50 markets

Forecasts for telecommunications equipment sales in US$m

1987			1990		
1.	United States	24,313.0	1.	United States	27,191.3
2.	Russia	9,800.0	2.	Russia	13,402.0
3.	Japan	7,100.0	3.	Japan	8,456.0
4.	West Germany	6,100.0	4.	West Germany	7,684.0
5.	France	4,960.0	5.	Italy	6,734.0
6.	Italy	4,522.0	6.	France	6,161.0
7.	United Kingdom	3,450.0	7.	United Kingdom	4,718.0
8.	Canada	1,927.0	8.	Spain	3,000.0
9.	China	1,752.0	9.	Canada	2,321.0
10.	Spain	1,650.0	10.	India	2,282.0
11.	South Korea	1,494.0	11.	China	2,050.0
12.	India	1,462.0	12.	South Korea	1,919.0
13.	Australia	1,360.0	13.	Australia	1,732.0
14.	Switzerland	1,150.0	14.	South Africa	1,511.0
15.	South Africa	1,142.0	15.	Switzerland	1,393.0
16.	Sweden	966.0	16.	Mexico	1,307.0
17.	Mexico	946.0	17.	Sweden	1,144.0
18.	Brazil	895.0	18.	Austria	1,080.0
19.	Austria	805.0	19.	Brazil	1,024.0
20.	Indonesia	704.0	20.	Taiwan	913.0
21.	Taiwan	698.0	21.	Indonesia	875.7
22.	Argentina	697.0	22.	Netherlands	786.5
23.	Saudi Arabia	611.0	23.	Argentina	772.0
24.	Hong Kong	609.0	24.	Saudi Arabia	770.2
25.	Netherlands	562.0	25.	Hong Kong	705.4
26.	Norway	518.0	26.	Norway	643.0
27.	East Germany	464.0	27.	East Germany	601.9
28.	Belgium	436.0	28.	Pakistan	539.6
29.	Venezuela	428.0	29.	Belgium	519.0
30.	Greece	339.0	30.	Greece	502.9
31.	Pakistan	328.0	31.	Venezuela	481.9
32.	Singapore	328.0	32.	Singapore	427.7
33.	Finland	314.0	33.	Turkey	402.8
34.	Denmark	295.0	34.	Denmark	370.4
35.	Turkey	294.0	35.	New Zealand	367.5
36.	New Zealand	257.0	36.	Finland	363.6
37.	Bangladesh	246.0	37.	Bangladesh	317.3
38.	Poland	231.0	38.	Poland	304.9
39.	Egypt	226.0	39.	Iraq	283.0
40.	Hungary	211.0	40.	Egypt	280.0
41.	Iraq	201.0	41.	Czechoslovakia	273.9
42.	Yugoslavia	188.0	42.	Hungary	252.3

Source: Telecommunications Industry Research Centre forecasts.

China

Giant leap forward

CHINA'S TELECOMMUNICATIONS, archaic until the 1980s, have made giant technological leaps in the last few years from what was effectively a 1940s level. Though facilities like international direct dialling are still strictly limited, it is now possible from a growing number of Chinese cities while satellite technology, programme controlled telephone exchanges and optical fibres have begun to play significant roles.

Growth has come fast. For instance, in 1980 Peking had only 86,000 phone channels.It now boasts 161,000. Other major cities have seen similar expansion.

By the end of this year China had over 50,000 trunk telephone lines and direct dialling services to 17 countries.The number of telegrams rose by over 50% and long distance telephone calls by nearly a quarter in the first half of this year compared to January-June 1986.

Typical of the growth is Shanghai's new telecommunications building. This will house 400-line programme controlled international exchanges bought from Belgium, 4,000-line exchanges from Sweden and terminal equipment for the Pacific communications satellite and the Sino-Japanese submarine cable. This is due to be finished this year. With this new technology, Shanghai's total of direct-dial trunk lines will rise from 300 to 20,000.

Wuhan, central China's most vital industrial city, has been transformed into a giant communications centre with five new microwave trunk lines, 1,800 intermediate carrier frequencies on its lines to Peking and Canton, and 11,000 digital programme controlled exchanges. These were supplied by American Telephone and Telegraph and are due to start operating next year.

Wuhan is also installing an imported long-0distance optical fibre cable system to Nanjing, and 2,000- channel programme controlled telegram equipment from Switzerland. Enhancing these improvements are some Chinese-made automatic long-distance exchanges.

Sichuan province, in south-west China, is installing a digital microwave telephone system which will add over 3,800 long distance lines to the existing network. This will provide direct dialling between the provincial capital, Chengdu, and half a dozen other major cities. Two thousand lines are due for completion next year.

Last February Britain's Cable and Wireless signed a £1.3 m contract with Guangdong for an optical fibre cable system between the province and nearby Hongkong. This will provide over 40,000 lines for data and facsimile transmission. C & W is also working on developing modern comunications in other parts of China. Over recent years the British company has signed around a dozen co-operative contracts with Chinese organisations.

Guangdong and other coastal areas have raced ahead in the telephone stakes because of foreign commercial needs. Canton was the first city to install direct dialling to Hongkong and China's four Special Economic Zones, where foreign investment is specifically encouraged, were not far behind. The 14 "open cities" - open, that is, to foreign business - and the four SEZs now have four times the nuimber of automatic dialling services they had in 1983 and 24 times the number of telex lines. China has recently imported computer controlled switchboard systems from France, the USA, Belgium,Sweden, Japan, Britain and west Germany.

Fuzhou,capital of Fujian province which adjoins Guangdong, has just added direct dial lines for nine new countries to theirexisting international facilities which include direct dial to the US, Europe,Japan and Hongkong.

Satellites figure large in China's ambitious plans for developing its telecommunications

Fujian is also building an optical cable digital communications system for domestic calls, of which 53 kilometres will be finished this year. Japan's Fujitsu is due to establish a Yen 500 m joint venture with the province to develop software for its digital phone switching system.

By the end of 1986, the official news agency reported, China had 8 m telephone sets, with nearly half a million new lines added in the previous twelve months. The country completed 650 projects, including urban phone facilities, microwave and satellite stations.

China has begun to use satellite communications to link Peking with Lhasa (in Tibet), Urumqi (Xinjiang), and Hohhot (Inner Mongolia).

On the international side, 90% of China's telecommunications are handled by satellite. The country now has direct circuits to 35 countries and nearly 750 international satellite communication lines.International phone calls and telexes have risen by around 50% annually over the past five years. After adding satellite links over the Indian and Pacific Oceans, China can handle telex, telephone, telegram,facsimile, radio and TV broadcasts.

China is now offering its own satellite service to other countries after its success in launching and recovering its first "piggy-back" satellite for France last summer. With disasters in the US shuttle programme and the French Ariane project, Peking's offers have begun to look attractive. Its own programme appears to have gone well since its first communications satellite, launched in April 1984, is officially reported to h ave completed its three-year experimental work load.

Peking is now researching into its own space stations, along with proposals for a small shuttle. Under its plan, the payload capacity of its present rocket, the Long March 3, will be increased so that by 1992 it will be able to carry 2.5 tons into synchronous orbit. In 1993 a new version of this rocket will come into service, the CZ-34L, which with its eight booster rockets will be able to carry 22 tons (equivalent to the Soviet Mir space station) into orbit near the earth and take an effective payload of up to seven tons to the Moon and Mars. For the end-1990s China plans a station in space and a small shuttle to carry personnel and supplies to it.

Satellites figure large in China's plans for communications, weather surveys and resource exploration. A new weather ground station has recently been approved by Peking which will process information sent by a satellite. FEngyun I, to be launched soon. Satellite ground stations in China, mostly used for TV, now number over 1,300.

China today claims one of the world's most advanced systems of naval communications, developed in the first place for its recent survey of the Antarctic. It was also used on other recent long-distance naval trips, notably to the Spratly Islands, near Brunei, which Peking claims as Chinese. The People's Daily claimed that this superlong wave system was one of the world's most powerful, and praised the navy's advanced long-distance shortwave telecommunications system.

These developments are spectacular, if isolated. For the average citizen in China, most of the old frustrztions of the telephone system remain. But in the vital areas of commercial contacts, space technology and the military,China has indeed taken a great leap forward.

Colina McDougall

Prospects for manufacturers of public telephone exchanges

Future less certain than ever

THE HALF-DOZEN or so companies which supply the world with public telephone exchanges (switches) are less certain than ever about their short and medium-term prospects. Their domestic markets are becoming saturated; the only route to continued growth is to enter unfamiliar foreign markets.

One area of certainty is that they must make products that work with ISDN. This is a set of international standards adopted by the world's telecommunications administrations (PTTs) that integrates all transmission services - voice, data, text and image down a single telephone wire. The central switch controls any ISDN network.

There is no shortage of new ISDN launches today in Geneva. All eyes will be on Dutch registered Alcatel NV, the world market leader in public switch manufacture, born from the union of ITT's telecoms activities and the French group CIT-Alcatel in January this year. Today Alcatel is introducing a small switch (under 3,800 lines) aimed at towns and industrial parks.

At the other end of the switch scale, West German engineering giant Siemens, now pushed into third place in the league, is unveiling a huge 100,000-line switch intended for cities.

These, and all the other switches on show at Geneva, work with ISDN. It is the minimum technical qualification to get on PTT buyers' short lists, even though ISDN will not become a widespread public service until 1990 at the earliest.

The PTTs feel pressure from their subscribers to provide the services that come with the new generation of switches. Top of the list are itemised billing, compatibility with computer networks and higher reliability.

PTTs are also staring deregulation and competition in the face for the first time. Therefore they look to new customer services both to gain subscribers and to generate cash. There is a lot of potential revenue in such goodies as call forwarding, call back when free and audio conferencing, each of which multiplies the number of calls made.

All these will be available with the arrival of ISDN. But this is not quick enough for PTTs and their customers. So the switch makers at Geneva are determined to show this week that they can provide ISDN look-alike services now, to be compatible with the real thing when the time comes.

The two companies most successful at doing this over the past couple of years are LM Ericsson of Sweden and Canada's Northern Telecom. Because of their small domestic markets, they have concentrated on exports since the early 1980s. In the US Northern Telecom runs a close second to AT&T in its home market, while European PTTs have a penchant for choosing Ericsson as their second supplier.

Both have made inroads into the UK. Ericsson provides British Telecom's second source of switches in the shape of System Y, known as AXE in the rest of the world. It is also the only switch in Racal's cellular telephone network. Northern Telecom is the supplier to BT's rival, Mercury Communications.

Such exports rely heavily on the technical excellence of the product. Racal's network is technically as good as the rival run by BT subsidiary Cellnet, although BT had first choice of switch. It also provides the technical basis for Racal's publicly-stated desire to become a third force in public telecommunications to rival BT and Mercury in the 1990s.

Mercury chose Northern Telecom at least partly because it can run the Centrex service which has become popular in the US. Centrex eliminates the need for an office switchboard. Instead, a company rents part of the central exchange. The result is savings on capital employed, on office space, staff and electricity.

Whether Centrex takes off in Europe as it has in the US largely depends on the tariffs set by PTTs. However, the summer of 1987 saw both Northern Telecom and Ericsson batting on an increasingly sticky wicket. Northern Telecom has failed to make much of a dent in European markets. Apart from Mercury, it supplies only the Turkish PTT.

Ericsson's six-month profits to June 30 declined 11 per cent, and its prediction that it would take orders of more than 1m lines from British Telecom rebounded when the June round of orders left British subsidiary Thorn Ericsson with nothing. Nevertheless, Thorn Ericsson is going ahead with plans to expand central switching manufacture at Scunthorpe.

This lull in the fortunes of the two high flyers may let in competitors. GEC and Plessey have devoted an entire exhibition stand to their switch, System X, in addition to their own individual stands.

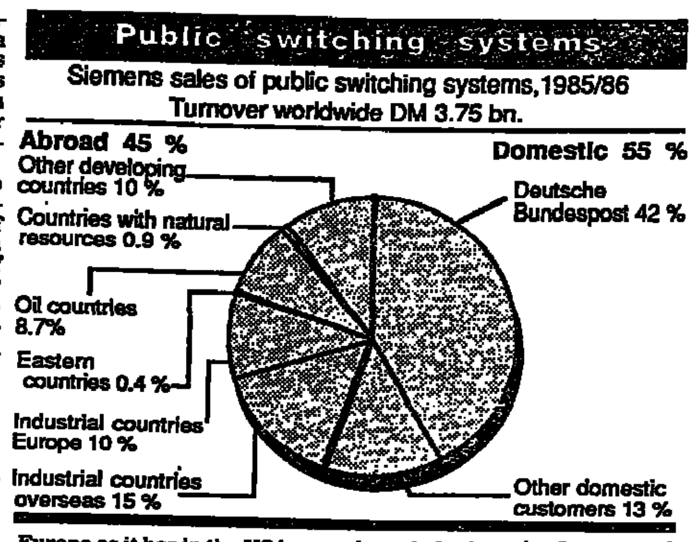
They are launching their smaller version of System X, and at least as importantly, they are showing the components of the technology which is to follow ISDN in the mid-1990s. This is based on optical fibres and has a much higher capacity. It will provide the basis for video-conferencing, for example.

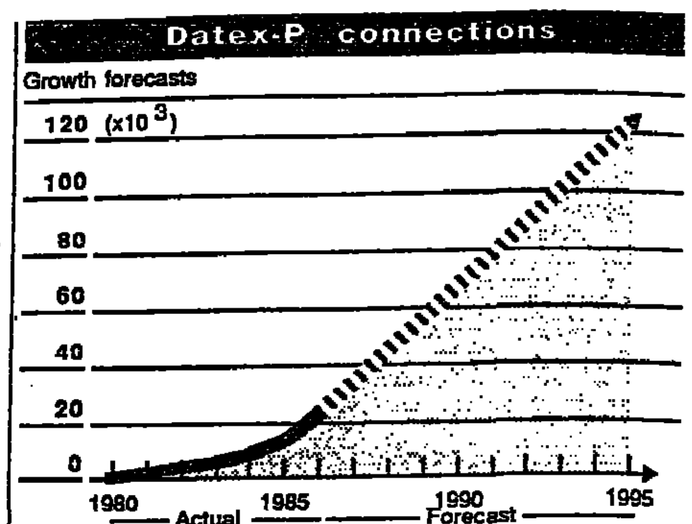
Ericsson is following this route by showing microchip technology that will allow the switching of light signals from optical fibres in a similar manner to the way electricity is switched today. Currently fibre optic networks must be converted into electricity for switching.

Japanese switch makers, on the other hand, are emphasising their expertise in office equipment at Geneva. In any case, the huge cost of developing a switch, and the time-scales involved in marketing one mean that much of the smart money must be on AT&T and the new colossus of the industry, Alcatel. This summer saw Alcatel's biggest-ever order for its System 12 switch. The buyer, spending about Ecu 220m (about £150m) was the West German PTT.

Alcatel's investment in 11 stands at Geneva dwarfs its rivals. The demonstrations include the first link-up between the switches inherited from ITT (System 12) and Cit-Alcatel (E10).

Danny Green





Packet switching

Aiming for the error-free network

DATA NETWORKS around the world are increasingly making use of packet switching. Not only does it reduce data errors that can occur during transmission, it also increases the utilisation factor of the telecommunications network.

In packet switching, as the name implies, the data is divided up into discrete packages of data, each with its associated source and destination addresses together with error checking elements.

Data enters the packet switching network at a packet assembler/disassembler (PAD) where this error checking information is appended to each packet. When it arrives at its destination, the PAD verifies that all packets are error-free and that none has been lost in transmission. In the event of a faulty or missing packet, the PAD will request the necessary retransmissions.

Should a line failure occur, the switches automatically route subsequent packets via an alternate path so that the user suffers least disruption. This is in contrast to the circuit switching that is used for ordinary telephone calls and circuit switched data where the connection would have to be restored and, in many cases, the entire block of data retransmitted. Where leased lines are used for data, the dial-up network is often used for back-up in the event of major line fault.

For the telecommunications authority which has to provide the services - and therefore the user by whom the costs eventually have to be paid - another advantage of packet switching is its efficient use of resources. In circuit switching, when no actual traffic is being carried, the line is normally unavailable for any other user. On the other hand, packet switching allows the lines to carry packets, without discrimination, up to their maximum capacity.

Packet switching networks are becoming widely available throughout the world with British Telecom's services being known as Packet Switchstream (PSS) and International PSS (IPSS).

Access to the PSS network is via a PAD to which large users have direct connections. Dial-up access is provided for small or occasional users. This access is over the public switched telephone network (PSTN) and so the speed of access is limited at present. When ISDN eventually becomes the universal switched telecommunications service, the user will have high-speed digital access.

Packet switching is widely used as the bearer for a variety of services: information retrieval from a remote computer database; allowing a large number of remote terminals to time-share the resources of a central computer; electronic mail; the bulk transfer of bulk computer files; as well as for credit card validation and airline booking systems which are highly interactive.

As well as public access, a company or common interest group can develop its own system of communication within PSS. This network could support electronic mailboxes, file transfers, large financial transactions and information management systems. Some of these applications would require regular low-volume traffic and others high-volume traffic, at specific, possibly irregular times.

BT's public data network, MultiStream, provides a number of services for dial-up users. These include EPAD which supports asynchronous protocols it Authorisation Telephones. Total transaction time on the authorisation telephone is around 20 seconds on average, as compared to the two to three minutes for a standard authorisation request on the PSTN (public switched telephone network).

MultiStream has just been extended, following extensive trials, with BPAD and SPAD which support respectively IBM's 3270 BSC and SDLC protocols. Both of these services offer accurate and error-free communication and provide complete data integrity (which is inherent in the IBM protocol) by supplying end-to-end error detection and recovery. This en- that are commonly used on personal computers and data terminals; VPAD which provides videotex (Prestel) across PSS; and TPAD which is used for credit card validation via Cred- sures that the information arrives safely and securely at its appointed destination. As well as offering a networking service, SPAD and BPAD also enables users of these protocols to communicate with minimum change from their established practice.

IPSS provides the international gateway to more than 50 overseas data networks. A PSS customer can obtain international access by keying in the appropriate Data Network Identity Code in a similar manner to that used by a telephone user prefixing a telephone number by international access and country codes.

Another advantage of packet switching is its efficient use of resources

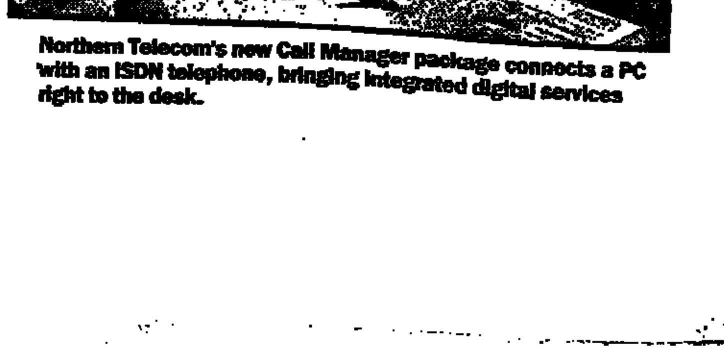
All networks strive to achieve a high degree of availability. This can be put into perspective by looking at the reliability achieved by public data networks in this country and elsewhere such as Datex-P, the packet switched system of the German telecommunications authority, the Deutsche Bundespost.

Their existing system, provided by Northern Telecom, has achieved an availability record of 99.95 per cent. In essence, this is only five hours of non-availability per year for hardware and software changes, maintenance and other downtime. Next generation systems in the UK, Germany and elsewhere will call for even better system availability: 99.997 per cent - a total downtime of only 15 minutes a year.

The Bundespost is now planning a 10-fold expansion of its network to take it into the 1990s. Northern Telecom, one of two contenders for the contract for the new system, has just announced a new data packet switch. It is more powerful by an order of magnitude than switches currently installed by NT or other suppliers and can handle up to 30,000 user access lines with a throughput of over 30,000 standard packets of data per second.

While that level of capacity is not required today, the Bundespost forecasts Datex-P to grow to between 100,000 and 150,000 connections during the 1990s. For that reason it is planning for the expansion with an investment programme that can be expected to cost between $100m and $150m between 1989 and 1994.

Adrian Morant



Northern Telecom's new Call Manager package connects a PC with an ISDN telephone, bringing integrated digital services right to the desk.

Transmission equipment

Era of radical change

WHILE SWITCHING is generally seen as the glamour part of the telecommunications industry, transmission is usually regarded as boring. There are signs that this is about to change dramatically, and in Europe at least, the UK is leading the way.

The battle for business customers between British Telecom and Mercury Communications has been pushing the UK ahead in adopting the most modern and in some cases pioneering transmission techniques.

Mercury, for instance, has already placed some 6,000 km of optical fibre in the 240 km of pipes under the City of London it bought from the defunct London Hydraulic Power Company. Nationally it has laid over 7,000 km of fibre. And all of this during just over three years of cable laying.

"There is hardly a business building in the City which is not either connected to our network or within throwing distance," comments Mr Gordon Owen, Mercury's managing director.

"Ours is the first all-digital network in Europe. It's Mercury's aim to be at the forefront of transmission technology to ensure that our customers get the best service at the most competitive price," says Mr Owen.

British Telecom, the former UK telecommunications monopoly holder, is worried. It is striking back at its newcomer rival with its big guns blazing. This year alone it is expected to instal 60,000 km of fibre in the City of London.

The City Fibre Network is British Telecom's £20m answer to Mercury's LHPC network. Like Mercury's system, it feeds optical fibre directly into the customers' premises. The major difference is in the degree of intelligence built into the network.

Whenever a City subscriber requests a private leased connection, a network management centre sets up a link via a modified version of the UK developed public digital exchange, System X. Unlike the switch when in its telephone exchange role, the connections are semi-permanent, however. At the subscriber's end remotely configured multiplexing equipment completes the circuit.

"It allows us to respond very much more rapidly and flexibly to the City's demand for private circuits," says Mr Denys Bennett, general manager of British Telecom's City of London district.

The ordinary waiting time for

Transmission equipment is no longer 'the poor relation' of the telecommunications world. Above, a British Telecoms engineer checks a Cellnet cellular radio aerial on the IBA transmitter at Beulah Hill, South London.

the installation of a private leased circuit by British Telecom is currently 100 days. Within the areas covered by the City Fibre Network, assuming a fibre is already installed to the customer's building, it should take only a few days. And if a similar connection has already been installed it should take only a few hours to modify it or instal another one, according to British Telecom.

Both of these examples illustrate the increasing importance of modern transmission techniques in improving services to the customer. "Transmission is going to play an increasing role as more and more of the public telecommunications network's intelligence migrates away from the centre," comments Mr Brian Mandley, chairman of AT&T Philips Telecommunications.

"It used to be the poor cousin of telecommunications but that's all changing," he remarks.

As an increasing part of the industrialised nations' switching requirement is fulfilled, transmission is the natural next step for public telecommunications equipment makers to direct their attentions. AT&T Philips estimates that the proportion of its sales derived from transmission products has risen from around a third to nearly a half over the past three years. By 1990 it is likely to account for the lion's share.

This view is supported by recent reports from the Telecommunications Industry Research Centre. It foresees a 60 per cent increase in worldwide spending on transmission to $10.33bn in 1990. In the UK TIRC predicts spending to rise by nearly 90 per cent to $684m. The bulk, some $350m, of the UK's spending on transmission is assessed by TIRC to be cable related; the rest is attributed to transmission products for use with microwave radio.

Mercury currently accounts for less than 15 per cent of purchases of transmission equipment despite having completed a significant part of its trunk network. British Telecom still takes the lion's share at 55 per cent although this is significantly less than its 70 per cent overall share of UK telecommunications equipment purchases.

In some areas, fibre-optic transmission equipment for example, TIRC estimates British Telecom's share as much higher, perhaps 85 per cent. About 40 per cent of BT's trunk traffic is carried over fibre.

Currently non-voice traffic accounts for some 15 per cent of trunk communications. "It is becoming increasingly difficult to distinguish between different types of traffic as it is all transmitted digitally on a common multiplexed channel," notes the report's author, IIRC senior analyst Jack Stockdale. "The differences will increasingly occur at the interface between the network and the user.

"The UK telecommunications market, and especially the transmission segment, is unique within Europe," comments MrStockdale. "First, there is the commitment to liberalisation. Then, there is the early move by British Telecom to digitalise its national network. Thirdly, there is the rapid adoption of fibre optic transmission technology."

TIRC believes that the radical changes which have taken place in the market structure for transmission equipment have been a direct consequence of the dramatic change in transmission technologies.

The challenge of the future, according to TIRC, will be the change of emphasis from the trunk network, which has dominated demand, to shorter range junction and subscriber networks. "Although there are still many developments in trunk transmission to come, the commercial incentive is now being provided by the junction and subscriber networks," says MrStockdale. "Designers of both systems and components must become more cost conscious. In reward they can look forward to the prospect of much larger quantities."

TIRC also sees a breakdown of the traditional classification of networks into trunk, junction and local. The falling cost of transmission, the increased use of multiplexers and the reduction in the size and cost of switching are changing the economic equation, says the report. "British Telecom, for example, has decided to reduce the number of its local exchanges by a factor of six. This means that the length of the subscriber loop will increase significantly, which can only accelerate the penetration of fibre."

The Telecommunications Transmission and Cable Market in the United Kingdom is published by International Telecommunications Intelligence, PO Box 1, Chichester, West Sussex, PO20 6XR, UK. Telephone 0243 683915. Price £295.

Peter Purton

Top 20 markets

Transmission equipment (1986)

		$m
1.	United States	1,896.7
2.	Russia	630.0
3.	West Germany	465.0
4.	Italy	407.3
5.	United Kingdom	396.3
6.	France	345.1
7.	Japan	290.2
8.	South Africa	177.4
9.	China	171.1
10.	Mexico	160.8
11.	Switzerland	152.3
12.	Canada	147.0
13.	Sweden	135.2
14.	Australia	118.0
15.	Spain	113.6
16.	Austria	61.3
17.	South Korea	58.3
18.	Poland	52.0
19.	Belgium	47.3
20.	East Germany	43.0

Source: ITI.

Price comparisons

Typical British Telecom bill priced in overseas tariffs, expressed as an index (April 1986)

	Business	Residential
France	123	174
Italy	119	129
USA (New York City & AT&T)	116	106
Japan	108	140
West Germany	102	132
British Telecom	100	100
Canada (Bell Canada)	99	60
Australia	97	107
Netherlands	66	88
Spain	56	74
Sweden	45	61

Source: BT.

Integrated services digital network technology

New trials under way

THIS YEAR'S telecommunications exhibition in Geneva is in for a special treat, says Mr Karl Frensch, director of marketing for public switching systems at Siemens in Munich. Visitors will see, first hand, a working installation of the long-promised, multi-function telephone phenomenon of tomorrow: the integrated services digital network.

Using one of its flagship local exchanges, a telephone switching machine called the EWSD, Siemens will link the exhibition stands of 12 different companies in such a network, called ISDN for short, on the public telephone system.

"We will be able," says Mr Frensch, "to demonstrate applications such as fast facsimile, fast telex, data transmission, call forwarding, simultaneous voice and data...all that is possible on ISDN."

There are now a number of field trials for ISDN around the world. West Germany's telecommunications operator, the Bundespost, already has trials operating in Mannheim and Stuttgart. France is beginning to offer a service. And, with the first commercial ISDN, Britain has 38 large-company customers for its fledgling network.

In the US, ISDN is taking off as the regional Bell operating companies push to engineering the capability into their networks. Equipment suppliers are having to tailor their machines to include ISDN in the Bell companies' traditional phone feature system, called Centrex.

More than a dozen Bell companies have ISDN trials under way. They see the technology as a way to recoup profitable market share lost to suppliers of features and services that "bypass" the Bell-controlled network. In particular, the market for private branch exchange, or PBX, equipment that brings phone functions to user premises (and out of the Centrex loop) has taken that lucrative value-added business away from the Bell companies.

Because of this market pull, "ISDN is getting ahead in the US," concedes Mr Frensch of Siemens, who himself has ISDN equipment in field trials at five of the seven regional Bell companies. Siemens also sells ISDN PBXs.

ISDN is a concept for using the world's existing telephone system to greater advantage. The thinking is that, with the telephone lines already in place, they can be used for more than just talking.

The telephone switchboards of yesteryear, run manually by operators who plugged callers into each other's lines, gave way to local exchanges (called central office switches in the US) that route calls automatically in the analog form of voice communication. Now these, too, are disappearing.

In their place are computerised switches; machines that can receive and route information in the digital language of the computer. These digital switches require far fewer people to run and maintain them, and hence they reduce costs.

"The majority of the equipment going in these days - over 80 per cent - is digital," says Mr Peter Copping, director for telecommunications practice at the PA Consulting Group in London.

The new digital technology has another advantage: it brings the power of the computer to communications traffic. Because all of the traffic, whether voice, data, video or simply the sets of instructions that accompany the information, travels in digital form, the computer can be used to manipulate it.

This makes possible a vast array of functions and services on a single "digital highway," an integrated services digital network, or ISDN.

The computer, for instance, can assign priority to some transmissions, hold others to send when off-peak rates apply, or ship different kinds of information - such as a telephone call and a facsimile - simultaneously. It can handle special call management features, such as forwarding, short dial, conferencing and automated billing.

These services are in big demand among business customers. Many already use such capabilities in multiple networks: one for telephones, another for facsimile, another for local-area (or LAN) computer linkages. For high-volume voice or data traffic, companies also lease private lines from telephone operating companies.

ISDN promises to take the whole burden, carrying multiple functions and doing it on the public network.

There are drawbacks. As presently conceived, ISDN is limited in capacity. World standards set by the Comite Consultatif International pour Telegraphie et Telephonie (CCITT) call for a basic format known as "2B + D."

That stands for two channels of digital information travelling at 64,000 bits per second (about the size of a long feature in the Financial Times), and one channel at 16,000 bits per second for signalling (the instructions the system needs to carry out its work). Eventually, higher volume rates would accommodate transmission over trunk lines.

But many companies require higher transmission rates now. Rental of 2m-bit-per second lines (over 30 channels of 64,000 bits), for instance, is not uncommon. ISDN proponents contend that companies will use both the private, "leased-line" services and ISDN on the public network when it is available.

In theory, ISDN should be available to everyone, eventually, on the public network. In reality, only business customers have shown any willingness to pay for such services. In the UK, British Telecom charges a £500 to £560 connection fee, and subsequent annual rental of over £500 depending on services used, according to Mr Colin Ram, a marketing officer for BT's ISDN service, called Integrated Digital Access. In addition, there are regular line usage charges.

BT's present service includes just one 64,000 bit line, plus signalling, but it will conform to the international format by the middle of next year, says Mr Ram.

Tariffs will vary. In Europe, for instance, state-run telephone operating companies could charge subsidised rates to get demand rolling. But it is still unclear whether there will ever be a home market.

"Digital switching technology is being installed increasingly, but residents are not prepared to pay for the services it makes possible," says Mr Copping of PA Consulting. "They just mainly want phones that work, and when they don't work, to get fast repairs." The industry is aware of the lack of interest. At conferences, people may be heard muttering that ISDN means "innovations subscribers don't need."

Still, it is clear that the technology push which has characterised ISDN from its inception has now swung around to a market pull from the business sector. The US research company Dataquest of San Jose, California, predicted earlier this year that sales of ISDN-related telecommunications equipment and services would reach $370m next year and $5.2bn by 1991.

Reluctant to predict dollar values, Mr Sean White, president of Northern Business Information, nevertheless also projects major growth in the number of subscriber lines that can access ISDN. From 19,000 lines worldwide (mostly experimental and most in Japan) last year, he forecasts that 4.2m lines will be operation in the US, Europe, Japan and elsewhere by 1991.

"The demand is coming from a broad range of businesses, from the Fortune 500 down to small companies," he says. "There is pent-up demand for this.'

Within the last year the US has boosted the technology by resolving a standards hurdle and setting equipment design rules for a particular part of the system not yet covered by CCITT standards.

The response among equipment makers has resulted in "a de facto standard set by industry that is now spreading all over the world," according to Mr Curt Bergstrom, product marketing engineer for ISDN products at Intel Semiconductor in Munich.

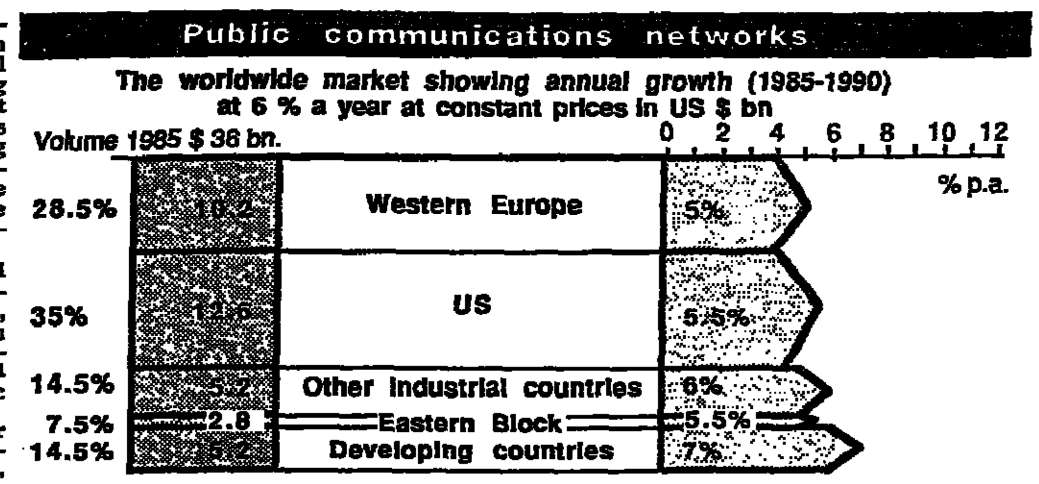
Mr Bergstrom recalls a vast array of ISDN equipment on display at a March industry conference in Phoenix. The impression of a US lead in the technology was unavoidable, he says. "It was a large exhibition and there were ISDN field trials seen by thousands of spectators from all over the world."

According to Mr White of Northern Business, demand for ISDN services among business customers is outstripping the ability of the Bell companies and their equipment suppliers to meet it. They are still stuck, he says, over such matters as the numbering system for ISDN (as the number of lines increases with usage, the US could run out of area codes, he says) and what to charge for the service.

"It is simple problems like these that are holding it up," says Mr White. "But some feel these things won't be resolved until the early 1990s. That would slow ISDN down."

Jane Rippeteau

Public communications networks



Source: Siemens US $ 1=DM 2.94

Comparisons in system sizes

	Number of lines in service (millions)	Number of lines in service per 100 population	Number of residential connections per 100 households
USA	114	48	96.7
Japan	44	37	80.2
USSR	26	10	n/a
West Germany	25	41	87.6
France	22	40	98.0
British Telecom	21	37	79.2
Italy	17	29	68.5
Canada	11	45	109.3
Spain	9	23	58.0
Brazil	7	5	15.9
Australia	6	40	91.3
Netherlands	6	39	82.8
Sweden	5	62	111.4

Source: BT

CO 77

Mr Denis Thatcher keeps both hands on the wheel while making a phone call to his wife in Downing Street, using the voice-controlled British Telecom Topaz carphone. Topaz is the first mobile telephone to comply with the Highway Code ruling that hand-held telephones must not be used while the driver is on the move.

New telephone facilities

No clicks or buzzes

IT IS axiomatic that the telephone is the most popular means of keeping in touch among the residential and business communities. And yet, for all its popularity and longevity - the invention is over 100 years old - it is only in the past 10 to 15 years that the telephone has undergone any significant change. Before then, the telephone had remained largely unchanged in appearance and facilities.

However in the 1970s, thanks to the ubiquitous microchip, the first push button telephones appeared. Since then, as well as becoming more decorative, the humble telephone has become endowed with such features as last number redial, number store memory and hands free dialling.

There has also been a trend towards a new method of dialling which takes advantage of the new electronic telephone exchanges which are gradually replacing the ageing electromechanical exchanges. The "old" system of dialling, called loop disconnect, uses electronic pulses which represent the digits of a telephone number. These are transmitted to the exchange which then counts them and routes the call to the remote subscriber.

Loop disconnect makes for a slow call "set-up" and, when all the trunk and local telephone exchanges have been replaced with the modern electronic units, will be superseded by multifrequency dialling. This method uses a number of predetermined tones which the electronic exchanges can detect and forward at a much faster rate and without having to wait and count the incoming pulses to set up the call. In this way as a number is dialled, the call is connected immediately without having to wait for the clicks and buzzes of the old system.

These new telephones also enable the consumer to use the facilities offered by today's modern exchanges such as call forwarding, call transfer and ring back when free.

But for all the telephone's new-found sophistication, the end-user appears somewhat unimpressed. According to UK telecommunications consultants Systems Dynamics, the consumer is more interested in his machine's reliability than in its extra facilities.

The most popular features, however, proved to be last number redialling and number store memory, but hands free dialling, conference facilities and music on hold are least in demand, says Systems Dynamics.

Applications for telephones have also widened. Cellular radio telephones for example have witnessed a dramatic growth in the past three to four years. At the end of May, over 1.5m cellular telephones were in operation world-wide of which 350,000 were in the five Nordic countries (which operate on a common standard), 763,000 in the US and about 180,000 in the UK.

The cellular telephone boom looks set to continue with the introduction of the Pan-European cellular system in the early 1990s when it is estimated that in Britain alone there will be over 800,000 users.

The market for cordless telephones is also predicted to expand rapidly as the new digital standard telephones, codenamed CT2, enter the market. At present cordless telephones are generally targeted at the domestic user. However, the new telephones are expected to attack the business sector for, unlike their predecessors, they will be able to operate from more than one base station, offering the user greater mobility.

It is also envisaged that special public booths, called "telepoints," will be set up where users can plug into the public telephone network using their own cordless set. According to a recent report from Logica, the telecommunication consultants, the business market for cordless telephones in the UK will expand from around 50,000 today to approximately 370,000 by 1991.

The new phones will be more expensive than today's phones, priced around £200 compared with £90 but they will also offer more features. Prices are likely to drop as sales volumes increase.

At present the UK is in the forefront of the new technology for cordless telephones. British Telecom and the UK's STC recently signed a £6m development contract to develop the new telephones; Orbitel, the joint venture between the UK's Plessey and Racal, is also working on a similar project and Shaye Communications has recently signed an agreement worth £2.5m with Nokia-Mobira which gives the Finnish group a 25 per cent stake in the UK company which was set up to produce the second generation of cordless telephones. Other shareholders in this company include Timex Corporation, Fred Olsen and Sinclair Research.

In another report, Logica forecasts an increase in the European business telephone market. Despite a modest growth in the installed base of the Western European business telephone market (only 3.5 per cent per annum) the value of the market will grow from $641,000 in 1987 to $1.34m in 1992.

This growth is seen as being largely due to three factors: a healthy replacement market (handsets are being replaced every 11-16 years and Logica expects this figure to fall to 7-12 years by 1992); a wide range of technically innovative products and "deregulation".

Most European countries are changing the status of their PTTs from being monopoly suppliers of telephones to competing in an open market. The report notes that pressure for deregulation is also coming from suppliers who are keen to target Europe as a single homogeneous market. This will allow them to effect economies of scale for larger production runs for the wide range of telephone types now expected by the user.

Jon Moggridge

Private exchanges

Facing the new challenge from Centrex

LIKE MANY other areas of telecommunications, the advent of digital switching techniques has transformed the role of the private automatic branch exchange (PABX). Fuelled by the demand for fast and efficient data communications within and between companies, a new generation of digital PABXs has dramatically increased available end-user features and brought the ability to integrate both voice and data traffic within a single office site.

Manufacturers of private exchanges argue, with some justification, that the modern genre of digital PABX is the fulcrum of the electronic office. It represents the hub of every large business organisation because it provides terminals, in the form of the basic telephone set, for every key member of that company.

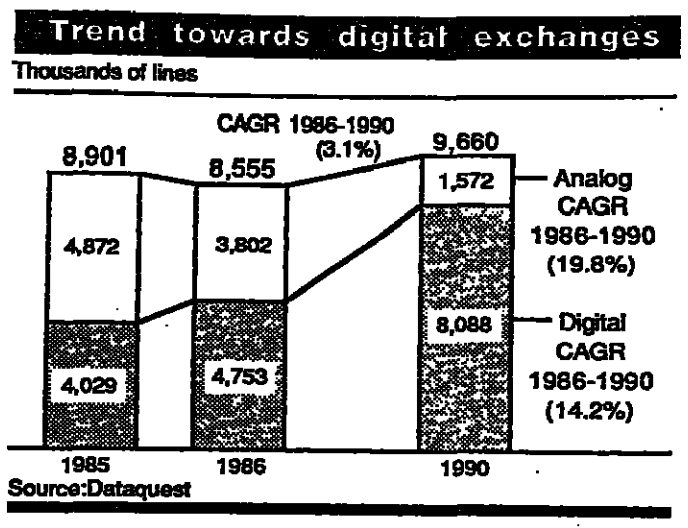
Until recently, however, the evidence is that few of the sophisticated service and features now on offer have been utilised and that the use of integrated voice and data switching has been minimal. But several factors are emerging to change this.

With the further digitisation of public networks the possibilities for communicating between different PABX locations have been enhanced. Also, competition from the suppliers of local area networks, as well as the onset of new technologies such as Centrex, has encouraged PABX vendors to tout their wares more aggressively.

As dedicated computer systems, today's PABXs can furnish a range of telephone features including abbreviated dialling, call waiting, call queueing, forwarding, last number redial, interception and, to the chagrin of many callers, muzak-on-hold. With simple changes in the computer software, it is also possible to retain the same number when moving premises.

Because many of their capabilities are applicable to data communications, PABXs are receiving growing acceptance for handling customer data. Specifically, they are being used as an economic and efficient way of linking terminals and computers within the office. While there are at present limitations on the speed of data that can be handled over existing telephone wires, a voice and data PABX offers flexibility when it comes to routine file swapping or resource sharing for laser printers, plotters or modems.

Trend towards digital exchanges



Source:Dataquest

Increasingly, the PABX can also offer an efficient means of communication with the outside world. Work on international standards will soon allow communication between PABXs, both across private networks and through the public network. The UK has been at the forefront of developments in this area and, with its indigenous DPNSS and DASS II signalling systems, currently has the most sophisticated intra-PABX network in the world.

The PABX is also set to play a leading role in the next stage in the evolution of the world's telephone network. During the late 1980s, the separate networks used for the transmission of voice, data, text and image will be brought together by the telephone operating companies under the umbrella of the integrated services digital network (ISDN).

For most business users, the private exchange will provide the vital link between the subscriber premises and the public ISDN network. In this regard, a new breed of digital PABX has emerged within the last two years adapted to meet the standards of ISDN. Demand for these machines, known internationally as Integrated Services Private Branch Exchanges (ISPBXs), is likely to lead to a vibrant growth market for private exchanges over the next decade.

However, the advent of ISDN will also bring a new competitive threat to the private exchange in the shape of Centrex. Centrex (Central Exchange) is a facility whereby the normal functions of the PABX are offered direct to the customer from the local telephone company's main exchange.

Among its advantages are the fact that the customer does not need to purchase or maintain his own PABX but simply pays a fixed rental fee for the service. There are also space savings to be had, ease of relocation from one site to another, automatic feature upgrades, and the possibility of having multiple installations across the country.

Although Centrex has been in the US for over 20 years, it has only recently crossed the Atlantic on the tide of liberalisation. In the UK, Mercury Communications has installed a trial Centrex exchange on a Northern Telecom switch and BT is due to follow suit later this year with an AT&T and Philips exchange. The picture in continental Europe is less clear. There, the technology is seen as a by-product of liberalised markets and its uptake is likely to remain slow (although such unlikely countries as Spain and Turkey have recently announced implementation plans).

It is arguable how big a long-term threat Centrex will pose to the installed PABX base. At the moment, the feature-rich PABX clearly has the upper hand, but digital Centrex comes at a time when most of the world's telephone operating companies are planning to modernise their networks. And while it remains a thorny regulatory problem for many of the traditional PTTs, it is likely to become an increasingly attractive option as Europe's terminal equipment markets are opened up before 1992.

In the US, the regional Bell operating companies see ISDN as the resurrection of Centrex. To fend off competition from private networks, they are already offering sophisticated voice/data services via Centrex known as Central Office Local Area Networks (COLANs), and these can be expected as the next wave of innovation in Europe.

The PABX may have a trump card to play, however, as intense research activity in the UK and US is now in progress, aimed at developing a so-called "cordless PABX." In operation, this radio-controlled exchange would form the switching hub for future wireless data networks both within and outside company sites.

The immediate market prospects for the private exchange will depend largely on the pace of liberalisation in Europe. Those countries which have in the past maintained a monopoly on PABX supply, including the Netherlands, Sweden and West Germany, are all now pledged to open their markets by the end of the decade. And with the UK and France relatively mature, the major opportunity will be in West Germany which has to date suffered from a low penetration of digital PABXs due to the strict terminal supply policy of the Deutsche Bundespost.

Denis Gilhooly

Satellite business services

The US leads the way

EVERY DAY in 500 bookmakers' shops in Britain, customers can watch one (and often two) live horse racing meetings, plus dog racing, as they place their bets.

By the end of January more than 3,000 bookmakers will take the service provided by Satellite Information Services and, so far, 9,000 of the countries estimated 10,300 bookies have registered to install satellite receiving equipment on their rooves.

The consortium, in which the major bookmaking chains have significant stakes, can relay live pictures from any of the 59 racecourses whose owners belong to the Racecourse Association.

"The effect of the service has been quite dramatic. There has been a high level of interest from the punters and increased turnover for the bookies on both horse and dog racing," says Mr Nigel Payne, marketing director of SIS.

Not only do people like the live action but Mr Payne claims the service has so stimulated interest in the areas where it is available that attendances at racetracks have started to rise, rather than fall as many people feared.

SIS launched earlier this year will probably not break even until its fourth year four because of the high cost of setting up the network and the £10m likely to be paid to the course owners over the next three years. But it is an important example of satellite technology being used by closed groups to stimulate their business.

The use of satellite communication is particularly relevant because SIS is delivering time-sensitive pictures to premises scattered all over the UK.

No bets are placed at all when Ford UK, through British Telecom, uses satellite communication for a daily video conferencing link with colleagues in Cologne.

Researchers at Dunton in Essex, howver, go into their own studio and communicate directly with technical staff in Cologne. Cameras can pan across new designs and as a result many hours on aircraft are saved.

British Telecom is also starting trials for an innovative satellite radio-paging service which will allow employees to keep in touch with headquarters, however far they have to travel. The service will, for instance allow transport companies to contact lorry drivers on routes across Europe, the Middle East and Africa and warn them of danger or send them urgently to a new destination.

The messages sent via an Inmarsat satellite will be picked up by flat 5-inch square plates mounted on the roof of a lorry and will come up on liquid crystal displays in the cab.

BT hopes the receiving equipment will cost less than £1,000. Horse racing, video-conferencing and the diversion of lorry drivers far from base in areas of poor communications are just three of the imaginative uses that communication satellites are being used for in addition to more obvious functions such as carrying telephone conversations across the Atlantic or delivering new channels of entertainment.

Use of satellites by broadcasters is now little more than a daily routine.

More than 20 television channels are now delivered by satellite all over Western Europe by telecommunications satellites, aimed mainly at cable television networks.

So far all of them, even well-funded channels such as Mr Rupert Murdoch's Sky Channel, are losing money.

Despite this, the supply of satellite capacity for television is scheduled to increase dramatically over the next two years with the launch of high power direct broadcasting satellites in West Germany, France and the UK.

If all goes well, by next September the Luxembourg-based private sector satellite, Astra, will be transmitting 16 channels of television from Lisbon to Warsaw and all points in between.

Even occasional users of satellite are catered for by Bright-Star, a joint venture between Visnews, the UK-based international television newsagency and Samuel Broadcasting of the U.S. The company offers a permanent satellite link across the Atlantic for delivering pictures with news and sport making up about three quarters of the traffic.

Away from the growing use of satellites as a method of alleviating the shortage of broadcasting spectrum faced by land-based transmitters perhaps the largest potential growth area for satellites for communications particularly within large multi-national corporation with far-flung offices.

Unlike the U.S., the whole area of independent business services using satellites is still in its infancy in Europe.

In Europe, such business services come under the various post and telecommunications administrations (PTTs) using satellites operated by the international satellite monopolies Intelsat and Eutelsat.

Both Eutelsat and Intelsat are coming under pressure from potential competitors. In Europe, Astra will compete with Eutelsat for the provision of television services. And in the U.S.the Federal Communicationms Commission has just given approval for a recently formed company Pan American Satellite to launch what is described as the first private international communications satellite.

In the U.S., according to Communications & Information Technology (CIT), the communicatsions research consultants, independent operators such as Equatorial Communications have already created a wide customer base. By the end of last year the company was serving a "network" of 36,000 one-way receiving dishes in the business sector and 6,000 interactive tw-way dishes.

With revenue forecasts of $60m, Equatorial expects to be serving 20,000 two-way stations by the end of next year.

"The rapid projected build-up in two-way service by Equatorial and the 10 or so U.S. cariers is in stark contrast to Europe where no PTT yet allows the operation of two-way services (and, in some cases, theoretically disallows one way," says Mr Patrick Whitten, managing director of CIT research.

Two way V-Sat (very small aperture terminals) offer business benefits to a wide ramnge of companies - everything from motor vehicle dealerships and banks to insurance and time-sharing companies.

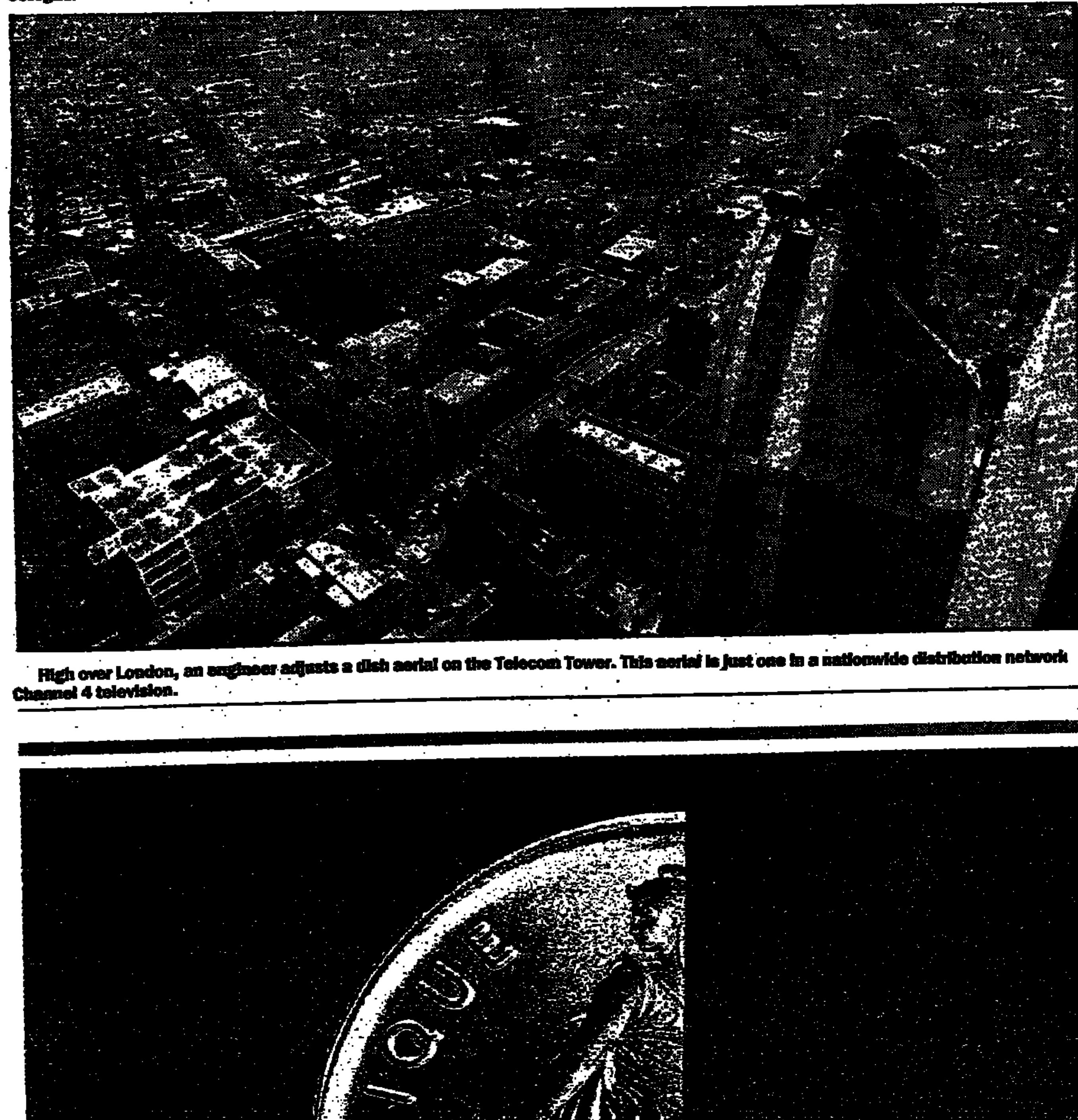
Growth of more than 40 per cent a year for five years is forecast for V-Sat equipment in the U.S. with so far only 3 per cent of data network owning networks using satellites, compared with 14 per cent who use private microwave links and 85 per cent using leased land lines.

The arrival of direct broadcasting by satellite (DBS) will increase the available capacity for data transfer. Each of the three channels on British Satellite Broadcasting's television satellite will also be capable of transmitting data at the rate of 20 megabits a second.

According to CIT, however, consumer services such as tele-shopping, tele-banking and tele-betting via satellite must be regarded as a market for the next century, rather than this.

New Satellite Communications in Europe. 1987; CIT Research, 1 Harewood Place, London, W.1.

Raymond Snoddy



High over London, an engineer adjusts a dish aerial on the Telecom Tower. This aerial is just one in a nationwide distribution network Channel 4 television.

In Zimbabwe, Jerry Fitzpatrick from BT's Telconsult service trains engineers in cable expertise. Telconsult provides a wide range of telecommunication consultancy services around the world.

Cable technology

Fibre optics in vogue

LAST SUMMER, one of the fleet of cable-laying ships owned bu Cable and Wireless, the UK telecommunications group, set out on an historic voyage between the Middle East and the West coast of India. The boat was laying a new line across a busy and expanding route; but more than that, it was putting down which is likely to be the last submarine coaxial cable in the world.

The demise of the cabling technology which has dominated the undersea telephone business for the last 30 years is being brought about by the development of submarine fibre optic cables.

The first of these lines went into service only last year between the UK and Belgium. But with the technology now well-tested, fibre optic cabling is set for a period of rapid expansion in the next few years, with new lines across both the Atlantic and Pacific. The first trans-Atlantic cable should be operating within a year.

The shift to submarine fibre optics follows a re-cabling drive which is already well underway on land. At sea, greater reliability is essential because of the difficulty of replacing equipment, particularly the repeater units which amplify signals that habitually lose power as they travel along the cable.

On land, however, these more stringent conditions do not apply, and cabling has been steadily gathering pace since the initial rial runs in 1977.

Although the big technological breakthroughs that made this possible are claimed for the UK, in the laboratories of the STC group, the most aggressive re-cabling programme has gone ahead in the US.

Deregulation in the American telephone system has been a big factor behind this rapid development. Long-distance competitors to American Telephone and Telegraph have invested heavily in fibre optics in the attempt to expand their toe-hold on the market for high-speed data traffic for business.

AT&T itself has equally been splashing out on optical fibre to maintain its competitive advantage, with the result that some analysts feel there may soon be overcapacity in the American system.

In Europe, the large telephone groups have not been exposed to the pressure from alternative carriers which was being felt by AT&T as early as the 1960s in the US. Nor have they felt the same demand from industry for better long-distance data communications, largely because European industry is still mainly organised on national rather than continental lines.

The existence of big, broadly-based American companies such as General Motors, International Business Machines or the aerospace groups, meant a much more urgent requirement for long distance links suitable for demanding corporate clients in the US: indeed, in Europe, a large part of the drive to improve international links within the Western European trading zone has come from the same large multinationals.

Nevertheless the European cabling programme is now gathering pace, with investment in the ten years to the end of 1987 estimated at around $1.4bn within the EC and the main peripheral countries. According to Dataquest, the market research group, this expenditure, which splits roughly equally between between cabling and associated transmitter and receiver equipment, has been broadly shared as follows:

● In the UK, the leader in Western European implementation of optical fibre, spending on cabling and its associated transmitter and receiver equipment, will have built up to about $370m by the end of this year. As the pace quickens over the balance of this decade, it will rise to a little over $1bn by 1991.

This relatively faster takeoff in the UK is partly attributed to the launch of Mercury, the only competitive network operator yet licenced in one of the main European countries, and a company which has immediately begun to buiild its own telephone system with optical fibre cables. BT has itself been trying to increase its appeal to large corporate customers by modernising its trunk network and City installations.

● France's policy has been less clear cut, largely because the Government has changed direction recently, abandoning a futuristic plan to recable the country at the local level to allow a much expanded variety of services to be carried into the home.

This FFr50bn programme would have given individuals in the towns selected for modernisation access to more television programmes, data services and so on; but it was scuppered because of cost and oppposition within the DGT, France's telecommunications authority which is believed to have been anxious about the possibility of private operators gaining access to the new lines.

As a result, it is estimated that France's spending on fibre optic cables will have amounted to only about $250m by the end of this year, although this expenditure will increase to around the British figure by 1991.

● West Germany is also somewhat behind the UK at present, with investment up to now of about $350m. But the country is now beginning to push ahead more rapidly with the modernisation of its trunk network - both the UK and West Germany have been suffering somewhat older traditional cabling in place than in France - with the result that its spending is expected to increase to about $1.4bn by 1991.

Beyond that, growth in Germany may be determined by the future of its ambitious plans for developing an integrated systems data network (ISDN). This technique for mixing voice, data and visual messages on the same lines is likely to demand and acceleration of spending on fibre optic cables

Longer-term demand for fibre optic cable may well depend on the way in which the debate over the future of ISDN is resolved. Although ISDN would theoretically deliver benefits in pushing different services through the same switching mechanism, some countries are baulking at the cost; and there are also big questions of whether the community will need the large amounts of telecommunications capacity flowing from the system.

Business, on the other hand, is welcoming the growth of fibre optic networks. The cables meet corporate requirements for increasing amounts of data traffic, and tend to be more reliable than traditional coaxial cabling or satellite communications. There is less interference with the signals on fibre optic cables, a key issue in data traffic, which is more sensitive to distortion than voice communications.

Hence the current round of interest in submarine cabling. With industry and commerce advancing pell-mell into a world where competition knows no boundaries, and where companies look routinely to a world market, international communications of all kinds are expected to increase by leaps and bounds. This is the driving force behind the plans for two new fibre optic cables across both the Atlantic and the Pacific, one of which in both cases will be held by private international network operators.

Cable and Wireless of the UK is at the centre of this private network, with a vision of constructing a system which stretches from the UK - the bridgehead into Europe - across to the financial markets in the US, and then onto Tokyo in Japan.

A significant part of this scheme has now been put into place with the group's establishment of Mercury in the UK, and its acceptance in Japan as part of a consortium to develop a new international carrier company.

Its cabling plans are also moving forward, and it has established a coast-to-coast newtork in the US. When the system gets up and running, it will be the first international operation of its kind to challenge the established national monopolies

Terry Dodsworth

Cellular telephone services

A highly-priced business

CYNICS MIGHT say that the cellular telephone industy has come of age this year by notching up its first trade dispute.

The European Commission launched an anti-dumping investigation this summer against a clutch of Japanese manufacturers, including NEC, Panasonic, Mitsubishi, Japan Radio (JRC) and Kokusai Electrics, as well as against Novatel of Canada.

The case was instigated by Motorola of the US, one of the world's leaders in cellular equipment, which claimed that dumping had hit the output of its new cellular handset factory in the UK.

The Japanese producers reacted strongly, arguing that Motorola was comparing prices for equipment used on the different cellular system in operation in Japan with equipment used in Britain. They also claimed that, far from struggling, Motorola had been increasing its share of the UK cellular equipment market.

The dispute is an unusual one: although being channelled through the European Commission, most countries in the EC are not involved; there is no European-based complainant; and, rarely, a Canadian company is being cited in an EC anti-dumping case.

Yet the case also demonstrated to the outside world that cellular had become very big business. Barely in existence a decade ago, it is now developing apace in most of the key industrialised markets:

- The US will have more than 1 million cellular subscribers by the end of the year and 2.2m by the end of 1990, according to the latest forecasts from Herschel Shosteck Associates, a specialist market research consultancy. Even though the first licence was issued only in 1984, most of the 90 biggest cities now have at least one cellular system.

- In Japan cellular is on the up. Last year there were 90,000 cellular carphones, up 50 per cent on 1985, and this year the number of users continues to grow very rapidly.

- Europe too is booming, with more than 500,000 users already. This could grow by about 30 per cent a year for the rest of the decade, on one forecast. However, the countries of Europe are in different stages of development when it comes to cellular.

The UK, which established Cellnet and Vodafone as two competing networks in 1985, has shown the most spectacular recent growth. With over 200,000 subscribers now and no sign of a slackening of demand, the two networks are confidently planning for more than 500,000 customers by the end of the decade.

Scandinavia, the cellular pioneers in Europe, still have by far the highest penetration levels - more than 10 per 1,000 population. Low population density and their affluence have boosted the appeal of cellular to the Scandinavian people.

The Opal: a compact phone from the BT Diamond range of Cellphones.

Other European countries have been slower to realise the potential, though there are signs of a change of direction. Usage has expanded smoothly in West Germany since the Bundespost introduced the first fully cellular service there last year. The French authorities have recently announced that they are looking to expand France's mobile communications by setting up a new cellular network.

But perhaps the most notable success which cellular has notched up is to persuade Europe to sink the difficulties which notoriously bedevil technological collaboration on the Continent in one of the most ambitious telecommunications projects ever attempted: the construction from scratch, of a pan-European digital cellular network.

The network will allow subscribers to use their cellular phones when they take them across boundaries for the first time. Its supporters argue it will also create a hugeunified equipment market in Europe, matching the economies of scale available in the US and Japanese home markets.

Leading manufacturers such as Motorola, Ericsson of Sweden, Siemens of West Germany, Alcatel of France, and Plessey and Racal of the UK are thinking hard about the opportunities opened up by the new network.

It could also give the Europeans a technological lead over the Americans and Japanese, although some American experts doubt whether the US will need to make the jump from analogue to digital networks as quickly as the Europeans.

The project took a big step forward last month when 13 European countries, including all the largest, signed a detailed memorandum of understanding in Copenhagen setting out the stages needed to implement it.

The memorandum sets out "milestones" concerning procurement, development and testing of the networks, the opening and expansion of the service. The aim is to have all capitals and the principal airport of each signatory country covered by 1993, followed by the transport routes between the capitals by 1995.

Meanwhile, there are signs that the use of cellular is deepening, as well as spreading. Network operators are paying more attention to value added services, such as messaging facilities if the subscriber is not able to answer the phone. Besides expanding the market, they also have higher margins.

Sending data over cellular could also be another area of growth, though some observers believe this will always be of interest only to specific groups of cellular users, such as salesmen who spend a lot of time on the road. Facsimile, database searches, telex and electronic mail are among the facilities that can now be accessed in cars.

All this is creating a huge equipment market. In the US alone, sales could be worth \$5bn by the end of the decade, according to one estimate. Another projection suggests that spending on equipment and services will be about \$4bn by 1990, double the 1986 figure.

Perhaps the only cloud on the horizon is if other forms of mobile communications emerge to knock cellular off its perch, though those poised for rapid expansion - such as paging and private mobile radio - seem complementary, rather than a threat.

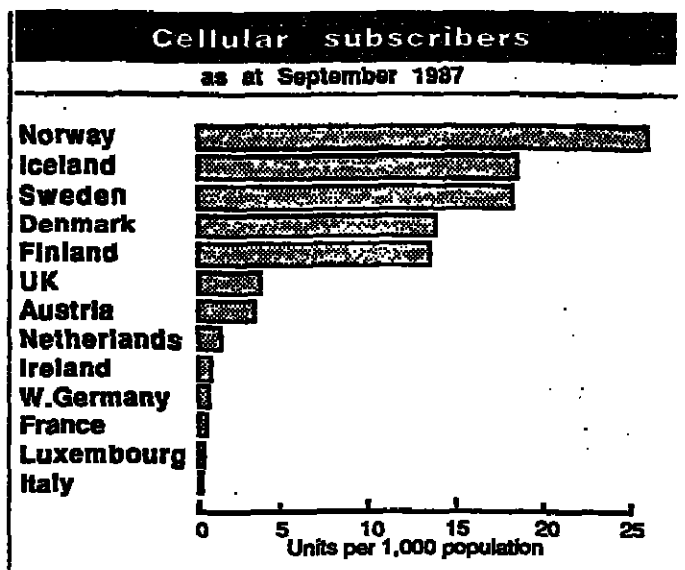
The main unanswered question remains: when will the price of cellular equipment and services - now at a level that restricts cellular almost entirely to business use - come down sufficiently to create a truly mass, residential-based market?

David Thomas

European Cellular Market

Country	Subscribers	Penetration per 1,000
UK	207,000	3.66
Sweden	155,050	18.45
Norway	109,500	26.07
Denmark	70,540	13.57
Finland	63,930	13.32
Germany	36,900	0.60
Austria	23,500	3.09
France*	25,520	0.46
Netherlands	18,620	1.28
Italy	9,100	0.16
Iceland	4,430	18.46
Spain	2,920	0.08
Ireland	2,350	0.67
Luxembourg	140	0.38
Total	729,500	2.29

*Quasi-cellular
Source: European Mobile Communications Report.



Source:European Mobile Communications Report

This car telephone from Racal-Vodac has an optional hands-free facility for trouble-free motoring.

Accelerating convergence with information technology

Reliability a key issue

AS THE complexity of business increases and its tempo rises, it is vital for management to be able to access information held in computers in different parts of the organisation which may be geographically widely separated.

Consequently, to meet these needs, information technology is rapidly becoming a strategic resource rather than just an overhead. Not only must it be possible to rely on this information - one must be able to rely on it being available.

When picking up the telephone, one's expectations are that it will work and, if for any reason it does not, the normal reaction is anger. On the other hand, computer faults tend to be greeted with resignation.

The essential difference is that we all take the telephone network for granted and assume that it will always be there - and will continue to work 24 hours a day, 365 days in the year. But we all recognise that computers are fallible: they have to be maintained, changed and updated and so are not available at all times.

As is often the case, the strength of a chain is that of its weakest link. Consequently, where computers are joined by telecommunications links, these links are frequently duplicated to insure against failure or breakdown in the network.

In addition, the public telecommunication authorities, such as British Telecom and Mercury in the UK, are able to provide the user with managed data communication facilities. A central control centre monitors the quality and flow of traffic within the network, rather like the police monitors road traffic via closed circuit TV, and in the event of a breakdown or overload, re-routes the traffic appropriately.

Where existing connections into the network are used i.e. between the subscriber and the local exchange, the result is not always satisfactory. The problem is that, while the telephone exchanges and the main transmission trunks are rapidly being modernised with the latest digital technology and System X exchanges, the connections into subscribers' premises are often the copper wires that were installed when the buildings were erected some 10, 20 or even more years ago.

It is this path - between the exchange and the subscriber - that is the most vulnerable. Consequently, normal practice is to instal special, duplicated, connections into the public network. That is an effective solution where there is a large amount of traffic or it is particularly vital, even though it may not be feasible for the site which requires only an occasional data connection.

In general, therefore, it is now possible to achieve a high degree of reliability in the telecommunications connections linking a network of sites and a central computer, thus allowing the management to access data held in remote computers.

In order to take advantage of this, the connected computers must have up-to-date information, and be available on-line when needed without being out of action because of faults, updates or any other reason. Unfortunately, most normal computer systems "go down" at intervals for a variety of reasons. However, these failures are virtually eliminated in vital areas where high reliability is required, where safety is involved or, for example, in on-line credit card validation systems.

Built-in redundancy (i.e. critical portions of the equipment duplicated and cross-connected) ensures that, in the event of any failure, the overall system continues to work, even if at a somewhat lower capacity.

Tandem and Stratus are two of the companies which have been fulfilling the specialist needs for fault-tolerant (or non-stop) computer systems in those critical situations where users could not be assured that conventional mainframe machine would meet their needs.

This requirement is increasingly important in the commercial world. With integrated computing systems in stores handling all aspects of trading from cash handling to stock control and reordering via direct communication links back to a central computer, there is increasing vulnerability to computer system failure.

Recently, NCR introduced its Series 9800 Release 2 fault tolerant machines. These provide users of some of the current NCR V8000 range of mainframes with a migration path for existing application programs to a fault-tolerant environment. They employ a modular multiple processor-based incremental architecture which offers the flexibility to expand the system by adding low-cost 'slices' of computer power.

This provides broad options for increasing application processing and data handling capacities; data communications flexibility; as well as adding fault-tolerant capabilities. This ability to take existing applications and transfer them to an expandable system which can also be upgraded for fault-tolerance will provide a very attractive option for many current and prospective NCR users.

Other manufacturers can be expected to follow this approach if it is demanded by the marketplace. While designing and building for fault-tolerance does not come cheap, users will be prepared to pay for it as information technology assumes increasing importance to business.

Adrian Morant

Cable television services

Modest advances

WITHIN THE next couple of months, 30 companies on the Slough trading estate to the west of London will be able to have a telephone service that competes with British Telecom.

The service will be offered by Windsor Television, one of the UK's modern multi-channel cable television franchises. The scheme is only a pilot, although it will probably begin spreading to more of the 500 businesses in the area later next year. But it is an example of the growing co-operation between cable operators in the UK and Mercury Communications, the company set up with the encouragement of the British Government to initiate competition in the telecommunications market.

Mr David Whitaker, managing director of Windsor Television, says he will be able to offer business customers calls that are 5-15 per cent cheaper, very clear lines and itemised billing. What he will not, however, be able to offer, at least at the outset, is two-way communication. There has been a dispute between BT and Mercury about who should pay for extra capacity which BT says it will have to instal to cope with incoming Mercury calls. Mercury can only offer a full national and international service by interconnecting with the BT system.

Despite that, Mr Whitaker believes it is possible to market an outgoing-calls-only service because that is the bit subscribers have to pay for.

"I think that cable television itself without telephony is an interesting investment and it always has been," says Mr Whitaker. But with telephony on top, he believes that cable will become an extremely attractive investment.

Yet more than five years after Mr Kenneth Baker, then Minister for Information Technology, launched cable television as a strategy for using entertainment to pay for the electronic wired cities of the future, the telecommunications achievements of cable have been modest, to say the least.

Apart from Windsor, and an experiment in a single block of flats in Camden, north London, the only other cable company with advanced plans to offer telephony is East London Telecommunications, the cable franchise covering the rapidly developing area of the London Docklands.

Mr Roger Marshall, managing director of ELT, is in the final stages of placing orders for equipment, has already had discussions with a number of local companies and hopes to launch a commercial service in the first quarter of next year.

Mr Marshall, who will probably go ahead only when a two-way Mercury service is available, has however downgraded telephony as a revenue earner within his long-term business plan from one third of total revenue to one quarter.

"The problem of telephony is essentially one of credibility. Until people like ourselves show we can deliver at the local level a service to compete with BT, there is always going to be a certain amount of reluctance," says Mr Marshall.

Earlier this year Mr Gordon Owen, managing director of Mercury, addressed cable operators and emphasised he was interested in reaching agreements with them. Such deals would enable Mercury to offer local telecommunications services in areas where the main Mercury trunk lines are otherwise unlikely to reach in the foreseeable future.

Although progress so far has been disappointing, the debate on how modern broadband telecommunication services, telephony as well as pictures, was considerably stimulated by last year's Peacock Committee into the future of broadcasting in the UK.

One of the recommendations of the committee envisaged national telecommunications organisations such as BT and Mercury being allowed to act as common carriers for both voice and television programmes over a national optical fibre grid.

Sir George Jefferson, then chairman of BT, in evidence to the Peacock Committee said that if BT were allowed to carry additional services, particularly cable television, it believed it would be economic to start replacing copper wire with high capacity optical fibre by the beginning of the 1990s.

The Government is keen on the concept of a national fibre optic grid but it is far from clear who would pay for its construction which could cost as much as £10bn.

BT would probably only consider such a venture if it had control over its use - something that would almost certainly be opposed by Oftel, the telecommunications regulatory body because of fears that BT's hold on the market would be further strengthened.

Unlike Britain, the French and West German governments have invested heavily in cable television infrastructure but progress in the introduction of new telephony services has still been slow.

According to a new report, Broadband Communications: the Commercial Impact, by Ovum, the consultants, broadband is already happening. Copper wires are being replaced by optical fibre, particularly in commercial centres, but there is little sign of interactive, two-way broadband communication based on hitherto unknown services.

In France by the middle of this year firm orders had been placed for 500,000 fibre subscriber connections - more than in the rest of the world put together.

"At this stage the networks are being used purely for entertainment TV distribution. The only exception is the Biarritz project, where 1,500 residential subscribers have access to video telephony," the report points out.

The French PPT, however, clearly intends to use the French cable network for telecommunications and will have the capacity to do it.

In Germany there are now claimed to be more than 2m cable television subscribers with the number expected to grow at the rate of more than 1m a year.

The cable networks are based on coaxial copper cable but there are plans to integrate them with a national broadband network and with it the possibility of new telecommunication services.

In the US, despite the fact that around 40m households subscribe to cable television, the industry shows little sign of developing sophisticated telecommunication services.

Even for Manhattan Cable Television, a cable company with more than 200,000 subscribers and one of the biggest concentrations of businesses in the world in its franchise area, data has not become a major part of its business.

According to the Ovum study, only 100 New York buildings have been wired by Manhattan Cable for data communications services and "there is no active marketing for data communications at present."

The report concludes that at least in the US cable television operators are less likely than telephone companies to be the future providers of integrated broadband communications.

Broadband Communications: the Commercial Impact. Ovum, 7 Rathbone Street, London W1P 1AF Price £320.

Raymond Snoddy

Engineers laying the world's most advanced optical cable to provide telecommunication services in the heart of the City of London. Britain is keen on the concept of a national fibre optic grid, though it could cost as much as £10bn. Below: a BT engineer checks dish aerials at the Madley Heath Earth Station, near Hereford.

Case study: satellite communications in business

A worldwide link-up

LAST MONTH, Digital Equipment Corporation (DEC), the world's second largest computer manufacturer after IBM, staged its DECworld exhibition in Massachussetts.

Several satellite links were established for the event, to broadcast technical seminar sessions to distant locations in the US, to communicate with its Puerto Rico manufacturing plant, and to demonstrate a supercomputer located at Cray Research, DEC's business partner in Minneapolis.

Exhibitions aside, satellite communications have become an integral part of DEC's business telecommunications network. The company leases satellite channels from a number of vendors.

'We use satellite communications at several locations,' says Mr Joseph Megna, manager of corporate telecommunications at DEC.

'We currently carry data and voice communications, but we also use video extensively in Canada and the US on what we call our Digital Video Network, to broadcast new product releases to our sales force at 52 sales and educational locations, and at some of our manufacturing plants.

'We have also used it for special programmes, for example to our sales forces in Australia and New Zealand. We are currently in the process of installing a satellite voice, data and video link to Puerto Rico and we lease satellite links up to the Far East.

'We are now experimenting with Very Small Aperture Terminals (VSAT), satellite antennae with small dishes, to interconnect our Ethernet local area networks on the East and West Coast, to make it look logically like a single local area network.'

Multinational companies typically have huge telephone bills for internal voice communications. In the past, they had no choice but to pay up and smile, usually to a number of different PTTs. Apart from the cost, these services were not always able to keep up with new developments in computer technology and office automation.

Up until 10 to 15 years ago, the public switched telephone network (PSTN) was the only publicly available voice telecommunications service available from the PTTs. Even today, the majority of data communications between different buildings within companies takes place over analogue telephone lines, with digital data from computers, terminals and facsimile equipment having to be converted to analogue signals via modems.

Whatever the telecommunications network the company installs, it has to operate within each country's telecommunications regulatory environment, regardless of whether this demands a higher cost and/or a diminution in the capabilities of that network.

With progressive deregulation, some countries are dismantling telecommunications barriers faster than the rest, particularly in the UK and the US.

'We have competent staff at our European headquarters in Geneva, and telecommunications managers within each country, so we seldom have to deal directly with the PTTs from this end,' adds Mr Megna.

Over the years, DEC's US and European operations developed separate telephone networks, based on traditional analogue leased lines from the PTTs to connect their locations together. These were called Digital (as in the company) Telephone Networks or DTNs.

The two DTNs were in turn linked by a transatlantic leased line. This allowed anybody within DEC Europe to dial a seven-digit code and to make contact with people at any other DEC location in Europe or the US.

Each location has a three-digit location number, followed by a four-digit extension number. Even for the smaller locations which are not connected by leased lines, the PABX switchboard converts the seven-digit code to the full number which has to be dialled on the PSTN.

The hub of the European DTN is based in the UK at DEC's Reading plant. As traffic volumes continued to increase between the US and Europe, the company decided about two years ago to look into the feasibility of connecting the two DTNs into one network using a satellite link.

This entailed monitoring and recording traffic volumes over a six-month period. The feasibility study showed a potential saving of about $1m.

DEC's new satellite-linked network has been operational since the beginning of the year, and there have been benefits other than savings too. For example, the US could not use seven-digit dialling because they previously worked on a Centrex switch, provided by AT&T. This meant that even with the PABX supplied by AT&T, extensions were still connected directly to the local telephone exchange.

The decision to investigate a single worldwide private telephone network linked by satellite was precipitated in 1984 when DEC US switched over from Centrex and invested about $12m in Northern Telecom SL100 PABXs, providing about 30,000 extensions in the New England area.

DEC's manufacturing plant in Ireland has its own satellite link because of the high traffic there, but the rest of Europe is serviced by a central hub.

The UK was the best place to site the hub because it has more advanced digital communications and because it has the lowest charges for international calls.

The cost of voice communications for most companies is higher than that for data, if only because one tends to speak longer over the telephone. By contrast, one can transmit enormous amounts of data over a 56 Kbps channel.

Furthermore, in terms of utilisation, data can be transmitted 24 hours around the clock whereas voice is used mainly during office hours, and typically within a time window of about five hours for communications between the US and Europe.

'Looking ahead five or ten years to define what our bandwidth requirements are going to be, we intend to use a mix of both satellite and transatlantic fibre optics cable,' continues Mr Megna.

'This will make the network more robust. There are few problems as far as data is concerned, but occasionally voice quality suffers over satellite circuits, although the echo suppression techniques are now a lot better than they were five years ago.

'Some companies have had bad experiences with some of the older technology, so our goal is to ensure that we do not have anyone talk on a voice link of more than one satellite hop.

'We use two satellites for connecting our US and European Digital Telephone Networks, but we still have diversity routing going over traditional cable as a fallback.

'I do not see fibre optics cable replacing satellites circuits. There will always be a place for both, because I do not want to put all my eggs in one basket.'

Boris Sedacca

Radiopaging

A worldwide upbeat assessment

IT IS a measure of the revolution that has overtaken the telecommunications industry that radiopaging has suddenly begun to attract a new wave of attention from manufacturers and consumers alike. From being a steady growth sector, it is now being propelled forward by new services, new products and new schemes for international development.

Underpinning this expansion is a large untapped pool of demand that is becoming more open to exploitation as prices fall and quality improves. At the same time, pagers are becoming smaller and much more flexible to use, able to deliver not only a warning beep but messages that can be spelled out on a small screen. These are all factors which make it easier to justify investment in the service.

The potential for growth in the market is suggested by the experience of the US, which has gone much further and much faster in the use of pagers than other countries.

According to figures produced by BIS Mackintosh, the market research group, the US had about 6.5m pager users at the end of last year, the equivalent of 5.7 per cent of the country's working population. At the same date, Japan had 2.15m users, or 3.6 per cent of its working population, whereas the UK had 435,000 units in service, a penetration level of 1.9 per cent among active workers. Penetration figures in France and West Germany were below 1 per cent.

The industry's upbeat assessment of its ability to grow is based on a number of initiatives for new or improved services virtually everywhere in the developed world.

In France, for example, the country will shortly move from having just one radiopaging service to three. Since the mid-1970s, the standard French system has been Eurosignal, a service shared with West Germany and Switzerland. Despite this three-nation facility, Eurosignal is widely regarded as technologically outdated because the receivers do nothing more than deliver bleep signals - they have no message display facility.

This weakness in the Eurosignal service has left the way open for the launch of a new paging system using the Telediffusion de France broadcasting network. The signals go over the broadcasting frequencies, a technology which gives them automatic national coverage.

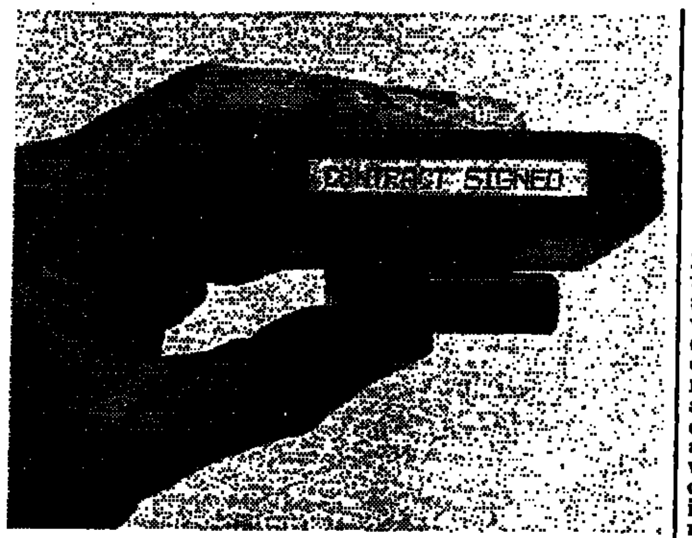
An alternative new service, called Radio-Messagerie, is also being launched in France. This will be capable of the full range of uses, including lengthy messages, and it will be possible to plug the receivers into the French Minitel home videotext system to scroll out detailed text.

West Germany, which is also reliant at present on the Eurosignal system, is introducing a new service next year. This will be based on similar technical standards to the French Radio-Messagerie, with the implication that the two may eventually be linked up like the existing Eurosignal network.

In the UK, there is a particularly lively spate of activity as two new services backed by substantial companies swing into action in direct competition to British Telecom. Up until now, BT Mobile Communications has had the field to itself as a nationwide paging operator, although there are several significant companies operating wide-area paging at a regional level. But both Mercury, which launched its system a few weeks ago, and Racal Vodafone, which went into operation with its network last week, are aiming to be national competitors from the start.

Analysts expect these launches to provide further stimulation to the British market, both through forcing down prices, and because of the extra promotional effort which will be poured into advertising. BIS Mackintosh, for example, believes that the the number of pagers in use could leap from about 435,000 at the end of last year to 1.3m in 1991, pushing penetration levels close to those currently enjoyed in the US.

The Metrocast company in the US is developing a frequency-hopping transmission device designed to circumvent the difficulties caused by the use of different wavebands to send paging messages in the US. This would use microchip technology to move rapidly up and down a frequency range to find the appropriate one for use in a particular area. British Telecom is now working on an international link with the US in this field through Metrocast.



This high-capacity message bleeper from Inter-City Paging can receive messages up to 80 words long, using a scrolling illuminated display.

Apart from these immediate developments in the paging field, there are a number of other initiatives being taken on a longer-term basis in the mobile telecommunications area.

One example of these new ideas is an ambitious US-directed attempt to develop a wristwatch pager. Dreamt up by a Californian new venture company, AT&E, the wristwatch device would be able to receive messages on a conventional-style watch. It would contain an aerial in the strap, and a scrolling system for delivering messages; and as if to underline the international possibilities of the device, AT&E has gone to Plessey of the UK to design the chips to power the signals, and to a Swiss watch company to market the final product.

Another device which equally demonstrates the burst of innovation sweeping through the industry is a small cordless telephone which could be used in certain selected locations

The idea in this case, developed in the UK, is to create a poor man's alternative to the mobile car phone, which is becoming small enough these days to be carried around outside the car as well. The cordless instrument would be smaller still, probably suitable for carrying in a pocket. Users would be able to go to a special site in, say, a railway station, point the telephone at a transmission device, and be able to key into the public telephone network. To make the transaction easier, it would be possible to programme the semiconductors inside the phone in such a way that calls could be billed to a home telephone number.

In the US, yet another approach to mobile communications is being planned by Hughes Aircraft, the Californian electronics group which is now part of General Motors. Hughes' technologists have developed a transmission and reception device which can be embedded, in the shape of a disc, in the roof of a car. or a train, or any other moving vehicle. It is technically feasible, they say, to transmit from this directly to a satellite and then down to earth again - a process which would circumvent the elaborate cell system and small receivers and transmission systems used in the cellular mobile network.

A similar, but more limited idea, is a satellite paging system being planned by British Telecom for keeping track of international lorry traffic. Companies would beam up instructions to the satellite, which would beam them down again to an aerial on their lorries. The signal would then be converted into a readable message on a small screen in the cab.

Some of these new ideas may not, of course, see the light of day commercially, and some of the projects that are being launched may find it difficult to sustain the level of profits their backers are aiming to achieve. But the range of new services under development is compelling evidence that the world is entering a period when there will be much wider choice to customers - an era when users will be able to tailor their communications requirements much more closely to their needs.

Terry Dodsworth

Value-added data networks

Even more messages in store

IT WAS not so long ago that the telephone was being used in exactly the same way as when it was first conceived by Alexander James Bell 100 years ago - to deliver voice messages over a metallic line from one individual to another. The advent of the commercial computer 30 years ago, however, has changed this world out of all recognition. Today's telephone lines are buzzing with other kinds of communications, as data is poured around the world in ever increasing quantities.

The rise in the amount of this data traffic has created a new business of value added networks, or VANs. In different parts of the world there are varying definitions of what exactly constitutes a VAN. But broadly speaking, the authorities for regulatory purposes look upon them as services which use the telephone network to manipulate information. They lie at the centre of the convergence of telephone systems and data processing, the marriage of two electronic systems which is commonly regarded as the base for a more information-intensive society in the future.

Among the stimulants to this development have been:

■ The need for real-time information, hooked up instantaneously through a telephone line. These systems have, for example, been a vital element in developing the airline and tourist trades into mass markets.

■ Demands for interchange of financial information between banks and other financial institutions.

■ The recognition that, with the growth in the use of personal computers, it is often more efficient to send messages over the data network than to telephone. Messages can be stored if the recipient is absent; the return message will similarly be received whether or not there is anyone there to answer the phone; and it is generally a cheaper form of commmunication.

Message systems have mushroomed in large corporations in recent years - IBM, for example, has almost 250,000 people worldwide on its network - and some of these private systems are now being opened up to allow users to receive messages from outside. Today, electronic mail services, which route traffic between different subscribers in this way, are one of the fastest-growing areas for VAN applications.

■ The growing demand for pushing commercial data backwards and forwards between supplier and customer companies. At present, the most prevalent use of the telephone system for transferring data is in large private networks run by the big multinationals. But as the use of electronic systems for creating and storing data has grown, it has become more and more obvious that these internal systems ought to be linked up to external ones as well. If a company is capable of processing its own data internally, why translate that into a conventional letter form for external communications?

Message systems have mushroomed in large corporations in recent years and some are now being opened up to outside users

The most popular use for processing intercompany data in this way is currently in the field of electronic data interchange, probably the fastest-growing area of VANs traffic after electronic mail. EDI systems are aimed at developing common ordering, invoicing and billing systems so that transactions can be carried out on a screen using the same format, rather than being committed to paper.

Advocates claim that this approach speeds up the order and delivery process, is more efficient and less expensive, and is likely to generate fewer errors because there is less transcription of data.

■ Some governments have also become strong advocates of value added services in the belief that they will help the corporate sector in general to become more competitive. This is particularly true of the US and the UK, where new VAN services have been encouraged, in contrast to the policy of protecting the telephone service monopoly in some other countries. Indeed, the telecommunications strategy of the US, Britain, and to a large degree of Japan as well, has been directed at reducing telecommunications costs as a means of raising the competitiveness of industry overall.

The more protective attitude to VANs development adopted in some European countries, however, is now steadily giving way to a wave of liberalising moves. The European Commission recommended a much more open policy in its outline paper of the future of telecommunications in June, and both Germany and France have since proposed new measures to stimulate the market. To some extent, these will depend on the pricing of leased lines from the telephone monopolies, traditionally expensive in West Germany; but operators clearly believe that there will now be more opportunities for development.

What the scope is for growth is virtually anyone's guess. In the UK, it is estimated that there are about 800 different VAN services at present, and estimates for the size of the market last year vary widely between £65m and £160m; growth forecasts are similarly vague, from around £300m in 1990 to £600m. Since smaller VANs operators do not have to seek a licence, the industry is becoming harder to track. In the US, the business is reckoned to have developed faster, led by electronic mailing systems and electronic data interchange.

Many of the services on offer are relatively local in nature, tailored to a national market. But a significant feature of the VANs business is that, like so many other electronics-based industries, it has enormous international scope. Indeed, even at this early stage in its development, international companies are emerging as major players.

In the UK, for example, there are now a number of significantly-sized home-grown companies, including an offshoot of Midland Bank which operates a range of viewdata services; Telecom Gold, the electronic mail subsidiary of British Telecom, and Istel, a division of the Rover group, which has developed a range of activities in electronic data interchange, viewdata and electronic mail.

Nevertheless, two of the most powerful service providers in the UK are US-based multinationals - International Business Machines and Geisco, the subsidiary of General Electric, which has linked up with the UK's ICL computer group to form INS; and in the electronic mail field, a US-based group, Telemail, is now beginning to spread its wings in the UK and internationally.

INS, 60 per cent owned by ICL, is reckoned to be the UK market leader in the electronic data interchange area, where it claims to be adding about 30 new companies a week to its subscribers. Its services already cover a large range of industrial sectors, including retailing through Tradanet, the motor industry through Motornet, and the insurance sector through Brokernet. New areas are being added steadily: it has just launched a service for the European chemicals industry, and another for the shipping sector.

These international VAN services play to the strength of companies like Geisco, which already has the experience of handling telecommunications and data communications across a broad range of activities through their expertise in managing data systems for clients who do not want to run their own. IBM is in a similar situation, broadening out from its traditional data services for individual companies to offerings which link a number of different companies.

Despite the restrictions on some markets in Europe, the operators appear to be convinced that there is nothing to stop the long-term growth of value added services. IBM, indeed, has established a special European organisation, Information Network Services, to bring together these activities in a European framework, with links outside to the US and Far East.

"There are restrictions almost everywhere on these services except in the UK, with regulations on the use of lines, special tariffing, or licences," says Mr Jean-Phillippe Gallant, director of telecommunications strategy for IBM Europe. "But we now see a very positive trend towards the loosening of these regulations to allow these activities to grow. Governments everywhere are beginning to recognise their importance for the overall economic well-being of their countries."

Terry Dodsworth